



International Conference

# FROM SEED TO PASTA III

**A SUSTAINABLE DURUM WHEAT CHAIN  
FOR FOOD SECURITY AND HEALTHY LIVES**

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## **DURUM WHEAT PRODUCTS WITH IMPROVED QUALITY AND NUTRITIONAL VALUE**

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During the last decades, the sourdough fermentation has been promoted as the most suitable leavening process to enhance the sensory, rheology, nutritional and shelf life features of baked goods. Although mostly used for making breads or sweet baked goods, this natural process has revealed interesting applications also for making pasta and/or most of the findings achieved are also easily transferable to the pasta industry. After almost fifteen years of investigation, a sourdough biotechnology, aiming at rendering gluten-free the wheat and durum wheat flours, has been exploited and industrially commercialized, including the manufacture of pasta. The process is also adaptable for making baked goods with an intermediate content of gluten, while keeping the same rheology features as the gluten-containing counterparts. Currently, baked goods made with sourdough fermentation have been challenged *in vitro* and *in vivo* for digestibility. The study represents the first reference showing the improvement of the overall digestibility of the protein fraction compared with products fermented with baker's yeast alone. Another current issue dealing with the durum wheat processing is concerning the content of FodMaps (Fermentable Oligo-, Di-, Mono-saccharides And Polyols), in particular fructans. Recently, a sourdough biotechnology, complemented with the use of fructophilic lactic acid bacteria, has been shown as one of the most promising tool to naturally eliminate the content of such chemical compounds during food processing.

**ABSTRACT**