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While assuring the safety of food products, technological processes have also recently turned in to the enhancement of their quality, mainly focusing nutritional and beneficial characteristics to health in order to meet the consumers' demands.

In the past two decades, a lot of evidence has come to light regarding the beneficial effects, either for the host or for the gut microbiota, of some foods and food ingredients or biochemical compounds. Prebiotics include resistant starches, dietary fibres (usually polysaccharides), oligosaccharides, some nonabsorbable sugars and sugar alcohols, proteins and amino acids, and other materials, including mucins, bacterial metabolites, and products from cell lysis.

The development of foods with probiotic content is a topic of high interest for the probiotic-food consumers as these are a popular item perceived as healthy by consumers. The incorporation of probiotic strains in several food matrices has been studied. This represents a challenge, since the viability of the incorporated cells in the food matrix depends on several factors, such as pH, storage temperature, oxygen levels, and presence of competing microorganisms and inhibitors. Furthermore, the use of probiotic strains has been confined almost exclusively to the production of fermented dairy products such as yogurts; however, the development of dried foods can be a good alternative and bring benefits to consumers, namely, in the improvement of the immune system and to those who are lactose intolerant. Drying technologies such as spray drying and freeze-drying may be used in order to produce these types of products. In addition, alternative technologies as zeodration or microwave drying could be also considered for their potential preservation of probiotics abilities during drying.

This special issue aims to focus recent research on the study and optimization of different synergistic technologies, which can constitute sound technological processes to develop foods with enhanced technological and/or nutritional functionality. Technologies, such as vacuum impregnation/ osmotic dehydration pretreatments or microencapsulation of probiotics followed by subsequent drying operations, may have different effects on relevant parameters related with the functional properties of specific food matrixes.

Potential topics include but are not limited to the following:

- ▶ Formulations of dehydrated functional, with pre- and probiotics, foods
- ▶ Microencapsulation of probiotics previous to drying
- ▶ Quality assessment of dehydrated functional foods: physical, physicochemical, and biochemical analyses; microbiological analyses; sensory analysis
- ▶ Optimization of drying technologies for the production of functional foods
- ▶ Synergistic technologies combined for the development of dehydrated functional foods
- ▶ Evaluation of the storage stability of dehydrated functional foods and simulation of exposure to the gastrointestinal conditions
- ▶ Health effects of the consumption of dehydrated functional foods

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