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Editorial

The Rendering of Traditional Fermented Foods in Human Diet: Distribution of Health Benefits and Nutritional Benefits

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Abstract: Most fermented foods are based on the cultural preferences of different geographical areas and the heterogeneity of traditions from where they are produced. For instance, many consumers in Asian countries prefer fermented seafood, while consumers in Europe prefer fermented cereal and dairy food products. Even though the food industry has developed various novel techniques in order to produce novel foods (genetic modification, nanotechnology and other processing techniques), traditional foods still represent a significant proportion of the food industry, which has recently appeared to develop further. In addition, the progress in various developed analytical techniques has revealed new knowledge that documents and corroborates certain benefits of traditional foods, mostly regarding their nutritional and health benefits. In this context, the main target of this Special Issue is to deliver new data on how traditional foods exhibit their health-promoting properties and ameliorate the nutritional value of fermented food systems. In addition, the involvement of wild starter culture in the production of traditional foods is a subject area that must be highlighted.

Keywords: fermentation; nutrition; traditional; starter cultures; health benefits; diet

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Fermentation is a traditional cost-effective food processing and storage method that involves the evolution and metabolic activities of various beneficial microorganisms leading to the bioconversion of food products for centuries [1]. Traditional fermented foods are generally nutritious and contain the essential vital constituents for the human diet, such as carbohydrates, lipids, amino acids and trace elements. Fermented food products are highly nutritious and differ worldwide, due to many reasons, such as environmental conditions, cultural and social features. It is estimated that there are 5000 main types of fermented foods worldwide [2]. They are mainly categorized as fermented soy products, fermented dairy products, fermented plant products, and other types of important fermented products, such as red yeast rice and kimchi [3]. The consumption of fermented food products can satisfy the main nutritional human requirements and ameliorates the mineral bioavailability and digestibility of proteins and carbohydrates. In addition, fermentation usually improves the technological features of food products, such as sensorial features [4]. On the other hand, even though the food industry and international research community are mainly interested in processed foods production with desirable sensorial characteristics, attractive form and a long shelf life, an drastic change of direction has been recorded over the last two decades regarding the exploration of fermented traditional foods [5]. The main reason for this new trend is the growing awareness and demands of consumers regarding healthy, natural, and high-quality food. In this manner, traditional fermented foods have been upgraded even further since recent research has established that various fermented foods are associated with specific health benefits to humans [6]. Some of these interesting findings are not confirmed, but have been well documented in clinical trials. Some studies agree that the consumption of fermented food products exhibits anti-diabetic, antihypertensive, antidiarrheal, anti-obesity and anti-aging effects, among others [7–9].

All of the positive effects of traditional fermented food are caused by microorganisms that are involved in the fermentation process. Lactic acid bacteria and

yeasts are the dominant group of microorganisms accompanying traditional fermented foods, even though molds can also be involved, as in the case of Indonesian *tempe* production [10,11]. Most of these are considered as beneficial, exhibiting sometimes probiotic effects [4]. The isolation and identification of main microorganisms can be explored in traditional fermented foods through various modern microbiological and molecular techniques. These are important for better understanding their precise roles and actions [5,12]. On the other hand, most fermented food substrates contain bioactive compounds that are increased or biotransformed during fermentation and are simultaneously more bioavailable [13]. Likewise, the majority of the traditional foods can be considered as functional foods, conferring potentially various health benefits.

The comeback of traditional fermented foods in human diets is becoming a reality. This Special Issue is devoted to the presentation of new findings on traditional fermented foods, regarding their health-promoting properties and nutritional value. In addition, the involvement of wild starter cultures in the production of traditional foods is an important subject area.

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