SECTION III: The evolution of gluten-free foods

Preface Section III

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Chapters 15 to 20

Evidence of the requirement of a gluten free diet dates back 60 years, when Dicke et al. (1953) pointed out the possible relationship between wheat gluten intake and celiac disease. However, gluten is not only present in wheat, some other cereals like rye, barley and oat, contain gluten when mixed with water. This information had great impact on food development due to the numerous foods and drinks that used those cereals in their production. Later (around 1970), gluten-free bread started to be produced, overcoming the technological restrictions that the absence of gluten provoked in the development of fermented cereal based foods. From that time an increasing consciousness has persisted, which prompted the development of gluten-free foodstuff, looking for tools to technologically replace the gluten giving sensory of accepted products.

Gluten is not just a great protein matrix, it is a protein with incomparable viscoelastic properties, because of that its replacement has been an enormous challenge during decades, and it is still a hot topic. Initially, only starches and hydrocolloids were considered but later on different tools have been developed for defining food recipes resembling the quality of gluten containing goods. In addition, it is necessary to understand where gluten is present and in which food processes it is really relevant its functionality, because this understanding will give us the required information for developing foods and drinks with sufficient scientific knowledge, taking advantage also of autochthonous gluten-free foodstuff. Nevertheless, in this scenario not only the sensorial quality must be consider, it is an essential requirement that those gluten-free foods provide the required nutrients' intake for those gluten free intolerants, contributing also to their wellbeing and healthy status.

The section Gluten-free foods within the book Advances in the understanding of gluten related pathology and trends of gluten-free foods is intended to give the most updated information about Gluten in the context of food development addressed to gluten intolerant population. Gluten-free foods section compiles six chapters authored by well-known worldwide scientists with a holistic approach covering from agronomic aspects to gluten-free food products and drinks of gluten containing cereals, gluten functionality, the alternatives that food technologist have available for making healthy and nutritious breads understanding the role of the ingredients and processes. Particularly, this section includes the following chapters i. Cereals taxonomy and the role of breeding on gluten intolerance; ii. Analytical tools for gluten detection: Policies and regulation; iii. Gluten functionality in food technology; iv. Alternatives for gluten replacement; v. Gluten-free autochthonous foodstuff; Gluten-free spirits and drinks; vi. Nutrition issues of gluten-free foodstuff. Up to date information, besides innovative aspects and emerging fields, have been identified, highlighting the importance of gluten management in the frame of Gluten related pathologies.

This book is intended to cover all aspects that could have an impact in the nutritional and health benefits of gluten intolerant populations. Its reading is essential for research scientists, dieticians, industrial bakers, consumers, food chemists, technologists, academics and regulatory authorities and to the general public interested in gluten and gluten-free products.

This Associate Editor would like to thank all contributors for their excellent and critical revision to show the state of the art of gluten-free foods and drinks from cereals to market and nutrition, without forgetting the analytical tools currently available to quantify gluten.

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