Food phenolics bioactives and toxigenic bioactives: Approaches based on innovative selected food processing technologies

Consumers around the world are better educated and more demanding in their identification and purchase of quality health-promoting foods. The food industry and regulatory agencies are searching for innovative technologies to provide safe and stable foods for their clientele. Thermal pasteurization and commercial sterilization of foods provide safe and nutritious foods that, unfortunately, are often heated beyond a safety factor that results in unacceptable quality and nutrient retention. Innovative non-thermal processing technologies offer unprecedented opportunities and challenges for the food industry to market safe, high quality health-promoting foods. The development of non thermal processing technologies for food processing is providing an excellent balance between safety and minimal processing, between acceptable economic constraints and superior quality, and between unique approaches and traditional processing resources. Non-thermal technologies are useful not only for inactivation of microorganisms and enzymes, but also to improve yield and development of ingredients and marketable foods with novel quality and nutritional characteristics. The presentation devotes attention to improving food functionality with high hydrostatic pressure (HHP) and pulsed electric fields (PEF). The focus on improving the quality and retaining bioactive constituents of foods and improving the quality of fruits, vegetables, and dairy, egg, meat and seafood products with HHP is evident. Improving food functionality with pulse delectric field (PEF) processes are focused on dairy and egg products and fruit juices. In this context, the case studies concerning natural anti-carcinogen phenolic bioactives and toxigenic mycotoxins in various types of foods were approached.

Biography

Ozlem Tokusoglu has completed her PhD from Ege University in the Department of Food Engineering, Izmir, Turkey. She professionally worked at the Ege University Department of Chemistry and Food Engineering. She was a Research Associate at the Food Science and Nutrition Department at the University of Florida, Gainesville, Florida, USA and at the School of Food Science, Washington State University, Pullman, in the State of Washington, USA. She is currently also working as an Associate Professor, faculty member in Department of Food Engineering of Celal Bayar University. Her study focuses on nutrition, food quality control, food chemistry, food safety, toxicology, shelf-life of foods and innovative food processing technologies and functional products. Her specific study areas are phenolics, phytotoxins, bioactive anti-oxidatives and anti-carcinogen components and food toxicants. She has conducted academic research studies, keynote addresses and academic presentations at many countries and meetings. She has published more than 150 studies in journals and conferences. She is a book editor of CRC Press Taylor and Francis and has three scientific books. She has been serving as an Editorial Board Member, Associate Editor and Section Editor of scientific journals.

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