

Food by-products based value-added products: Evaluations in terms of industry 4.0

Ozlem Tokusoglu^{1,2}

¹Celal Bayar University, Turkey

²Dokuz Eylül University Technology Development Zone, DEPARC Technopark, SPİL INNOVA Ltd.Şti, Turkey



Abstract

Food by-products in the food sector is characterized by a high ratio of product specific waste. Food by-products or food industry shelf-stable co-products as liquid, pomace, or powder forms can be obtained from fruits, vegetables, meats, seafoods, milk and dairy, cereals, nuts, fats and oils processing; drying of by-products and converting them into powder offers a way to preserve them as useful and value-added products. Those above-mentioned by-products may be evaluated as a source of dietary phytochemicals including phenolic antioxidants, carotenoids, bioactive other polyphenols, dietary fibers, as a source of proteins, peptides and aminoacids, may be evaluated as extruded products. as a sources of collagen, gelatin, and as a sources of various food additive materials. However, the some of by-products can be utilized as compost /animal feed or industrial materials. Nowadays, the potential utilization of the above-mentioned major components has been the focus of attention. Dietary supplements and/or food fortification based on the value added products may be alternative for certain types of cancer, reduced risk of coronary heart diseases. The application of novel technologies in the value-added product manufacturing is ushering a new era referred to as the 4th industrial revolution. In this point, there is a principal need for promoting companies in the transition to Industry 4.0 technologies/applications, and leading them for improving their aptitudes as uniformly, objectively and repeatability. This presentation discusses food powders derived from food by-products and wastes as well as their chemical characterization, functional properties, their unique bioactive features, enhancing technologies, processing of food by-product powders and utilizations, also covers antioxidative, anticarcinogenic reports, pharmacological evaluations and clinical studies of nutraceuticals derivatives from food by-products in terms of industry 4.0.

Bayar University, Manisa, Turkey. She earned a bachelor's degree (1992) and master's degree (1996) from EGE University, Izmir, Turkey in the Department of Chemistry and a PhD degree (2001) from EGE University, Izmir in the Department of Food Engineering. Tokusoglu is main Associate Editor of WILEY-Journal of Food Processing and Preservation (JFPP), USA. Professor Tokusoglu is also Manager (CEO) of the SPİL INNOVA Ltd.Şti. Food, Research and Consultancy in DEPARC Technopark, Dokuz Eylul University Technology Development Zone, İzmir, Turkey as University- Industry Relationship responsibility.

Speaker Publications:

1. Tokusoglu Ö. 2018. Approved Patent. "Non-Oxidized Frying Oil with Enhanced Antioxidants and Its Manufacturing Method". PT2016-01841. (2018 September Approved Patent) By Ozlem TOKUSOGLU— Dokuz Eylül Technology Development Zone, DEPARC Technopark, No:TPE-2016-GE-523822 12 page.
2. Tokusoglu Ö. 2018. Approved Patent "Technological Process of Power Melting Aronia Fruit Ice Cream with High Antioxidant Capacity" By Ozlem TOKUSOGLU— Dokuz Eylül Technology Development Zone, DEPARC Technopark, No:TPE-2016-GE-502034 10 page.
3. Özden Ö., Tokusoglu Ö., Bildik Ahsen E. 2017. "Z Paper". "Antibacterial Feature Redounded Paper Packaging" No: TPE-2014-GE-13925 By Istanbul Rectorate- Dokuz Eylül Technology Development Zone, DEPARC Technopark Mutual Patent. 8 page.
4. Tokusoglu O. 2020. Food Toxicology. Celal Bayar University Course Notes., Manisa Turkey. 149 page.
5. Tokusoglu O. 2020. Food Shelf Life Stability. Celal Bayar University Course Notes., Manisa Turkey. 220 page.

[29th World Conference on Food and Beverages; London, UK - August 24-25, 2020](#)



Biography:

Professor Ozlem Tokusoglu, PhD, is currently working as faculty member of the Department of Food Engineering at Celal

Abstract Citation:

Ozlem Tokusoglu, [Food by-products based value-added products: Evaluations in terms of industry 4.0, Food and Beverages 2020, 29th World Conference on Food and Beverages; London, UK - August 24-25, 2020.](#)