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Dagmara Head

Food Development Centre, Canada

Utilization of food processing by-products

Statement of the Problem: Food and beverage manufacturing is an important part of the global economy. Food manufacturing uses a lot of water and generates numerous by-products (waste streams). The by-products often contain valuable components, depending on the commodity processed and the type of processing (example: starch and protein in potato processing effluent). Often, the valuable components could be recovered and used as ingredients in food, nutraceutical and other bio-products. Sometimes, additional processing (fermentation, thermal processing) can be applied to a by-product to improve its functional and sensory characteristics, making it attractive for use in food. Globally, more emphasis is placed on utilization/reduction of waste streams of various food industries (plant and animal based) for environmental sustainability; it also makes economic sense, as it could help companies increase their profit margins. The purpose of this presentation is to discuss food processing industries and the by-products generated, provide examples of potential components for recovery, and identify potential applications.

Methodology & Findings: The presentation will outline some of the emerging opportunities and challenges of by-products utilization, and how industry is working to address them. The presentation will focus on the by-product utilization work conducted at the Food Development Centre, a Special Operating Agency of the Province of Manitoba. Additional examples of by-product utilization processes developed elsewhere will be presented.

Conclusion & Significance: Many opportunities exist for better utilization of food processing by-products. At the Food Development Centre, a variety of processes have been developed for converting these by-products into food ingredients and other valuable bio-products, thus assisting companies in becoming more sustainable. The recovery of high value components from what is generally considered a waste and an expense for companies, not only creates valuable ingredients but could also profit the companies and ultimately help to keep the waste streams off the landfill.

Biography

Dagmara Head holds a position of senior process development consultant in the Department of Research and Development at Food Development Centre (FDC) in Portage la Prairie, Manitoba. During the last five years with FDC, she has been fortunate to be involved in many projects related to value addition to various food processing by-products. Prior to her appointment at FDC, She has worked in the regulatory affairs field in a private consulting company, held food laboratory research positions, and held various summer jobs within food industry in Europe. She holds a BSc/MSc in Food Science from the Warminko-Mazurski University in Olsztyn, Poland and a PhD in Biosystems Engineering from the University of Manitoba in Winnipeg, Manitoba. She is an active Member of the Canadian Institute of Food Science and Technology

dagmara.head@gov.mb.ca

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