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Modification of functional dietary fiber supplement based on agro food byproducts

Abstract:

The search for new sources of fortified components from low cost and sustainable sources has become a trend in the last decade. Approximately 35% of the world's food and agricultural products are wasted each year. Global food waste has become a negative impact on the environment due to the problems associated with its accumulation. Fruits and vegetables processing, coffee and sugar processing, grain milling, and oil extraction would be one of the accessible and cost effective sources of bioactive compounds such as dietary fiber, protein, and phytochemicals. The generation of huge amounts of Agri-food byproducts opens an important area for applied research to reduce and manage them efficiently. Chemical, mechanical, thermal and enzymatic processing are used to modify the techno-functionality of byproducts. Due to high microbial contamination, waste requires rapid processing. In all recent methods, waste processing is very time-consuming. Extrusion is an efficient technology for converting food byproducts into nutrient-rich food ingredients in a short time on an industrial scale. Extrusion technology applies high temperatures and pressure simultaneously, usually resulting in physical and chemical changes of the material. Therefore, For the practical applications of these byproducts in extrusion, it is crucial to understand their impacts on the qualities of raw material blends and extruded products. In this text, different methods of modification and processing of the resulting fiber based on agro-food by-products will be examined and compared in terms of operation yield, efficiency, technical and microbial quality of the final product, production cost and environmental impact.

Biography

I am **Elnaz Milani**, Associate Professor at the Institute of Food Research of Iranian Academic Center for Education, Culture and Research (ACECR) with 16 years of teaching and research experience. I have received all my degrees from B.S.c to P.h.d at Ferdowsi University of Mashhad, Iran. My research interests include: Food extrusion technology, Functional food, plant protein, Meat analogue, Instant food product, prebiotics and probiotics. To date, I have published 81 articles, 38 of which are indexed in Scopus. My H-index is 19 in Scopus and 22 in Google Scholar. I have supervised 11 PhD and 40 MSc thesis.