

The influence of the curly kale addition on selected properties of extruded pellets and expanded snacks

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Abstract

Development of the extrusion-cooking technology enabled the processing of plant resources with a specific chemical composition and with a large variety of physical characteristics. Extrusion-cooking is based on HTST (High Temperature Short Time) processing with devices called extruders. Proper equipment and processing conditions enable the production of wide variety of products. According to increase in consumer awareness about well-being and healthy lifestyle some new types of snacks products were developed supplemented with addition of fresh kale leaves. Kale (*Brassica oleracea* L.) is rich in minerals and vitamins: C, B1, B2, E, K and PP, provitamin A, folic acid and potassium, iron, phosphorus, and easily digestible calcium. Kale consists antioxidants, fiber, and glucosinolates (phytochemicals that reduce the risk of cancer) so supplementation of food products, especially snacks. Potato-based composition was used as control and fresh curly kale was used as nutritionally valuable additive and natural colorant in amount of 10, 20 and 30%. Snack pellets were obtained by the extrusion-cooking and dried pellets were expanded by frying. Selected physical and chemical analyses were performed as well as texture and structure evaluation. Expanded snacks supplemented with fresh kale showed increased nutritional value, improved taste and visual attractiveness with intensive green color and various amount of fresh kale affected the structural properties and texture of snacks. These results are part of the research project LIDER/29/0158/L-10/18/NCBR/2019 entitled "Development of a Comprehensive Technology of Obtaining High-Quality Extruded Snacks Based on Minimally Processed Vegetable and Animal Raw Materials".

Biography

Beata Biernacka has completed her PhD at the age of 30 years from University of Life Sciences in Lublin. She is an assistant professor. Her scientific activity is focused on food fortification, and particular interests are focused on enriching pasta products

with natural additives derived from plants. Scientific and research achievements include 32 scientific papers and 22 conference proceedings.