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REVIEW ARTICLE

The use of tubers in the development of extruded snacks: A review

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Abstract

Healthier snack trends have led to the use of tubers as raw materials for the manufacture of these extruded foods, using extrusion cooking technology, which is widely used and versatile in the food industry to develop snacks with better nutritional characteristics, functional and sensory. This review highlights research work on the use of extrusion cooking to produce tuber-based snacks. The parameters of the extrusion process, such as the temperature of the cylinder, the feed moisture content, feed rate, and the screw speed, notably affect the characteristics of the snack and therefore, its acceptability to the consumer. Emphasis has been placed on the effects of the concentration of the tubers and/or the ingredients of the mixture and the parameters of the extrusion process on the processing variables (torque, residence time, and specific mechanical energy), and the characteristics of the extrudates (expansion index, bulk density, hardness, water absorption index and solubility in water, and starch digestibility) where improvement can be obtained.

Novelty impact statement

The review summarizes the wide variety of tubers processed using extrusion cooking technology. Its goal is to provide a single source of information to guide the research and development of extruded food products formulated with tubers as an ingredient.