

Food Safety and Hygiene  
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## Nutrition, Food Science and Technology

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**Pasta, snack crackers and bean temp-eh hamburger: Food development with nutritional and functional appeal****Priscila Zaczuk Bassinello**  
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The search for food products with nutritional and functional appeal coupled with curiosity about new types and availability of food, as well as ready-made and / or ready-to-eat foods has increased in recent decades. In this scenario, the development of bean gluten free products is attractive due to its high protein content, dietary fiber, complex carbohydrates, and the presence of B vitamins, minerals as well as phenolic compounds, antioxidants and anthocyanins. Therefore, the development of quick cooking noodles and bean snacks at low cost is an option for improving the nutritional quality of these products. Following this trend, another alternative to consumers is the common bean temp-eh, typically produced by the solid fermentation of soybean by the fungus *Rhizopus oligosporus*. The objective of this study was to develop pasta, biscuits and bean temp-eh hamburger, and to evaluate their composition and sensorial acceptance. The pasta and biscuits were developed from precooked carioca and black bean flours, and the temp-eh produced with 100% carioca or white bean grains as well as with the mixture of carioca beans and soybeans (1:1). The best temp-eh composition was used to formulate the temp-eh hamburger. Pasta and snack crackers made from carioca and black beans showed high protein and fiber content, low caloric value when compared to commercial products based on wheat flour. BT presented a remarkable reduction of the protein content in relation to the traditional

soybean temp-eh, but presented high fiber content, lower caloric value and antioxidant activity. Hamburgers had reasonable acceptability by consumers and resembled chicken hamburger. In general, the products developed showed good sensory acceptance, nutritional and functional appeal, that is, they raised the desires of consumers who search for practical foods without giving up the nutritional quality or healthy properties. In addition, they can be used as a good protein source for vegans and vegetarians.

**Speaker Biography**

Priscila Zaczuk Bassinello is a food science researcher at Embrapa Rice & Beans (since 2002) with focus on grain quality-technological, nutritional, functional, bio-fortification, and sensorial quality of dry beans, rice and their byproducts for food development. She is a coordinator of the AACC rice division (2011), member of the International Network for Quality Rice led by IRRI (2011-2014), head of the Embrapa Research Group of Special Rice and Bean grains (2015-2016), executive secretary and active member of Embrapa projects Portfolio on food, safety, Nutrition and health since 2013. She collaborated with the Embrapa's Document "Vision 2030: The future of Brazilian agriculture" (2018). She was titled Ambassador of Beans by the Sector Chamber of the Bean and Pulses Productive Chain, at the Brazilian Ministry of Agriculture (2018). She is the professor who advises master/doctor's students on food science and technology at the Goias Federal University and collaborates with other university programs. She is also an authored/co-authored more than 70 research papers, 1 book and 6 book chapters in the last 10 years, and has just published an international book on "Phaseolus vulgaris: Cultivars, Production and Uses", as editor. She contributed to the organization for economic cooperation and development consensus document on common bean constituents (Safety of Novel Foods and Feeds, No. 27). She co-inventoried a Brazilian patent 14224-6 (2012) on a computer program for automation of Matton Bean Cooker, at INPI (National Institute of Industrial Property).

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