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Development Of Food Products From Biofortified Crops

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Abstract

Biofortification is a strategy that uses conventional breeding in order to develop crops rich in nutrients and improve their agronomic characteristics. It is an important complement, which along with other interventions such as micronutrient supplementation and food fortification improves the nutritional status of the population. Additionally, with the processing of biofortified crops can be obtained processed foods, high nutritional value and good potential of consumption. It was therefore the objective of this work to develop food products from biofortified crops that are accepted by consumers and maintain their nutritional quality after processing. Biofortified varieties of maize, beans, cassava and sweet potato were characterized by their high content of beta-carotene, iron and zinc. Using appropriate technologies and conditions of drying, milling and extrusion, four different pre-cooked mixtures that fulfilled nutritional requirements (according to Colombian Technical Standards) to be labeled as "*good source of iron*" were developed. Mixtures were evaluated according to indexes of solubility and absorption in water, and used in the preparation of various foodstuffs such as instant beverages and soups and others flour-based drinks. The four mixtures developed for children over 4 years and adults, containing 15% to 19% of the reference value for iron (18 mg), for a portion of regular consumption of 30 grams of flour, may be declared "*good source iron*". The values of solubility and absorption of the mixtures indicated good quality to be used in infant feeding, for easy preparation. These results have encouraged the participation of private sector food industries, integrand biofortified crops as raw materials in the production of processed foods for the population exposed to situations of food and nutrition insecurity in urban and rural areas of Colombia.

Keywords: Biofortified crops, instant mixtures, flour-based drinks