



THE EFFECT OF GAMMA IRRADIATION ON THE NUTRITIONAL PROPERTIES OF BRAZILIAN BISCUITS OF THE GREEN BANANA

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Banana is one of the most consumed fruits in the tropics and subtropics. Brazil accounts for about 9% of the world banana production. However, the production losses are high as 30 as to 40% and even much higher in some developing countries. The green banana flour is a potential ingredient for bakery products containing slowly digestible carbohydrates. The green banana flour is a complex carbohydrate source, it includes a high total starch (73.4%), resistant starch (17.5%) with functional properties. Also, the green banana is a source of dietary fiber (14.5%), macronutrients and micronutrients. In this work data about the effects of ionizing radiation on the physicochemical analysis of brazilian biscuits made with the green banana are showed. Gamma irradiation is considered to be an alternative method for food preservation. It has been performed due to the need of extending the shelf-life of foods, whilst maintaining their safety and avoiding one of the main concerns: the nutrient loss. The need to eliminate undesired pathogens from food products should always be balanced with the maintenance of product quality. Irradiation of functional biscuits was performed in a ⁶⁰Co Gammacell 220 source, at doses of 1 and 3kGy. The physicochemical sample analyses were carried out in conformity with the methodologies described by Institute Adolfo Lutz, with the following determinations: total carbohydrates, proteins, lipids, total alimentary fiber, moisture and ashes. The caloric value was calculated. Analysis of variance (ANOVA) was applied with mean comparisons By Dunnet test, at error of 5%. No significant difference was observed between the irradiated and non - irradiated samples of green banana biscuits with the following determinations: carbohydrates, proteins, alimentary fiber and ashes. Only a small significant difference was found in lipids (macronutrients) and moisture. Irradiation of biscuits with doses of 1 and 3kGy maintained their original macronutrients content, showing good radioresistance.