FI-15
COCONUT IRRADIATED MICROBIOLOGY AND SENSORY

Amanda Santillo, Gustavo Fanaro, Amanda Ramos, Anna Villavicencio
IPEN/CNEN, São Paulo, Brazil

The coconut is one of the products obtained from the fruit of the almond coconut (Cocus nucifera L.), showing great versatility as an ingredient in homemade recipes and industrial formulations. The coconut is a substrate conducive to microbial growth, if necessary, during processing, the maintenance of appropriate conditions of hygiene and sanitation. The present study is to evaluate the pure coconut irradiated using doses 0, 1, 2 and 3 kGy on the reduction of microbial quality and sensory analysis using the method of acceptance.

FI-16
IONIZING RADIATION EFFECTS ON GLUTEN-FREE BAKERY FOOD

Flávio Rodrigues, Gustavo Fanaro, Helbert Costa, Renato Duarte, Anna Lucia Villavicencio
Instituto de Pesquisas Energéticas e Nucleares, São Paulo, Brazil

Celiac disease characterized by an inappropriate immune response to dietary proteins found in wheat, rye and barley (gluten and gliadin). It can affect anyone at any age and is more common in women. The celiac disease does not have cure and the only scientifically proven treatment is a gluten free diet. In Brazil, the gluten-free bakery food production is small. Irradiation as a decontamination method used for a many variety of foodstuffs, being very feasible, useful method to increase the shelf life, effective and environmental friendly without any sensory properties significant change. The aim of this work was to verify the effect of different ionizing radiation doses on gluten-free bakery foods found in the Brazilian market, as well as the sensory properties in irradiated samples. Sensory analyses were used to assess gluten-free bakery foods subjected to ionizing radiation sensory attributes and to verify the commercial acceptability.

FI-17
EFFECT OF COMBINED RADIATION AND NaOCl/ULTRASONICATION ON REDUCTION OF BACILLUS CEREUS SPORES IN RICE

JiHyoung Ha, Hyunjoo Kim, Sangdo Ha
Department of Food Science and Technology, Chung-Ang University, Ansung, Gyunggido, Republic of Korea

In this study, the reduction efficiencies of combined ionizing radiation and Sodium Hypochlorite (NaOCl) and ultrasonication (US) treatment against *B. cereus* F4810/72 spores in raw rice were examined. We also evaluated whether combined processing would produce synergistic effects compared to the individual treatments. The concentration of the initial *B. cereus* spore was approximately 2.9 log CFU/g. After 0.1, 0.2 and 0.3 kGy irradiation treatment, the reduction values were 1.3, 1.4 and 1.6 log CFU/g individually. In the case of combined gamma irradiation and NaOCl/US treatment, the reduction values were higher than each single treatment. The combined treatment of 0.1, 0.2 and 0.3 kGy and NaOCl (600-1,000 ppm)/ US (5-20s) completely destroyed the spores in raw rice. However, the spores were not completely destroyed in the control treatment (0 kGy). These results indicated that it could be more efficient and economical to apply a combination of low chemical and low gamma irradiation dose instead of a high dose of each disinfection treatment to destroy B. cereus spores in food such as raw rice and food contact surfaces.