

G6. Comparative effects of Gamma Irradiation and Ozone Treatment on Hygienic Quality of Health Foods

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For the purpose of improving hygienic quality of health foods, the comparative effects of gamma irradiation and ozone treatment on the microbiological and physicochemical qualities were investigated. In this study, we have found that gamma irradiation at 10 kGy could sterilize total aerobic bacteria, molds and coliforms below detective levels, while ozone treatment up to 18 ppm was not sufficient to eliminate the microorganism of health foods. In the physicochemical properties, fatty acid and amino acid compositions, mineral, TBA value and pigments were not significantly changed by gamma irradiation, whereas ozone treatment caused significant changes in fatty acid compositions, lipid oxidation and destruction of natural pigments. Therefore, we have concluded that gamma irradiation was more effective than ozone treatment for the improvement of hygienic quality and maintenance of nutritional quality of health foods.