

Title Quality of gamma irradiated blueberries

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Abstract

Fresh fruits may contain hazardous microorganisms after harvest and handling. Irradiation has been shown to be an effective means of reducing the microbial count, in particular for the most hazardous microorganisms. The aim of this study was to evaluate the effect of irradiation on blueberries (*Vaccinium* sp). The fruit were chosen carefully and were packed in polymeric film bags (Cryovac-PE65S) using a passive mode and sealed. Blueberry packages were irradiated at several doses (0 up to 3 kGy with intervals of 0.5 kGy). The blueberries were stored at 4 °C in a refrigerated storage until one of the quality factors was degraded to an unacceptable level (22 days). All analyses were carried out on three packages on each sampling day. Physiological, physical, microbial and sensory parameters were evaluated in irradiated and non-irradiated samples throughout the storage time. Shelf-life of 0.5 and 1 kGy irradiated blueberries was shorter when compared with non-irradiated fruit. Inactivation of blueberry microbial load after irradiation, at doses mentioned was reduced by approximately 1.5 log for total counts and 5 log for coliforms.