

Ultraviolet-C irradiation maintaining texture and total sugars content of ready to cook baby corn during commercial storage

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Abstract

The aim of this study was to investigate the effects of ultraviolet-C (UV-C) irradiation on the changes in total sugars concentration and texture of ready to cook baby corn during cold storage. The baby corns were irradiated with UV-C at the dose of 0 (control), 2.2, 4.4 and 6.6 kJ m^{-2} and then stored at 5 ± 1 °C for 7 days. The results showed that the losses of total sugars were delayed by UV-C irradiation treatments. All the UV-C treatments significantly maintained the firmness of the treated baby corn samples and prevented the increase in electrolyte leakage, especially at 4.4 kJ m^{-2} . Compared to control sample, the 4.4 kJ m^{-2} UV-C irradiated baby corn retarded the depolymerisation of pectin substances by suppressing the polygalacturonase and pectin methyl esterase activities. Therefore, the dose of 4.4 kJ m^{-2} could be a feasible alternative UV-C treatment maintaining texture and the total sugar concentration of ready to cook baby corn during commercial storage.