Quality and microbiological changes of asparagus spear packaged in polyvinylchloride film and treated with Ultraviolet-C

(Conference Paper)


Abstract

Quality and microbial populations of asparagus spears packaged in foam tray and wrapped with polyvinylchloride (PVC) film were investigated after exposing to ultraviolet-C (UV-C) at 1.2, 2.4 or 3.6 kJ/m2 and during storage at 7°C. UV-C increased respiration rate relative to that of unirradiated control. Respiration rate was highest with the highest UV-C dose used. Ethylene production also increased in response to UV-C but differences relative to the control were not significant. Total ascorbic acid contents increased during storage. UV-C at 2.4 kJ/m2 better maintained ascorbic acid levels than the other treatments. Color and crispness declined with storage with no significant effect of the treatments. Total microbial and coliforms counts slightly increased during storage regardless of treatment. Fungal population remained relatively constant in all treatments throughout the storage period. UV-C irradiation had no significant effect on microbial growth. Shelf life of asparagus spear was about 4 days.

Author keywords

Irradiation; Microbial load; PVC film; Quality; UV-C

Indexed keywords

Species index: Asparagus

References (8)

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