

Title Changes in some quality indexes in fresh-cut green asparagus pretreated with aqueous ozone and subsequent modified atmosphere packaging

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Abstract

The changes in lignifying, antioxidant enzyme activities and cell wall compositions of fresh-cut green asparagus. (*Asparagus officinalis* L.) in 1 mg/l aqueous ozone pretreated, and subsequent modified atmosphere packaging (MAP) during storage at 3 °C for 25 days was investigated. The enzyme activities in fresh-cut asparagus including phenylalanine ammonia lyase (PAL), superoxide dismutase (SOD), ascorbate peroxidase (APX), glutathione reductase (GR) were inhibited by aqueous ozone treatment and subsequent modified atmosphere packaging. Changes in lignin, cellulose and hemicellulose contents were also monitored during storage. Similarly, the increasing of the cell wall compositions under the aqueous ozone treatment or (and) MAP were significantly reduced ($P < 0.05$). The possible mechanisms in which changes in enzymatic activities and cell wall compositions were discussed.