Title Reducing enzymatic browning of fresh-cut eggplants by antioxidant application

Author M.B. Pérez-Gago, C. Rojas-Argudo, M.A. del Río and M. Mateos

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Abstract

The objective of this work was to study the effect of a wide range of antioxidants reducing enzymatic browning of fresh-cut eggplants. Fresh-cut eggplants were dipped in ascorbic acid (AA), citric acid (CA), peracetic acid (PA), cysteine (Cys) and 4-hexylresorcinol (4-HR) at different concentrations. Colour and sensory evaluation were performed during storage at 5°C. Among the antioxidants studied, AA and Cys most effectively reduced browning, whereas the rest of the antioxidants caused tissue damage, which translated in higher browning than control samples. AA was effective in a range of concentrations from 0.35% to 0.88%, whereas concentrations above 1.5% induced higher browning than observed in control samples. Effective Cys concentrations ranged from 0.1% to 1%. Cys effectiveness increased with the concentration. The loss of effectiveness was faster in the AA than in the Cys treatments. The limit of marketability for samples dipped in 0.88% AA and in 0.5% Cys and stored at 5°C was 2 and 9 d, respectively. After 9 d of storage at 5°C, samples dipped in 1% Cys were still evaluated as very good. These results show the potential of Cys as antioxidant to control enzymatic browning of fresh-cut eggplants.