

Title Screening of various antibrowning agents for apple slices
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Citation Abstracts of 7th International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.
Keywords apple; browning

Abstract

Surface browning, caused by cutting and other wound during minimal processing, is very important quality criterion to consumers. This study was carried out to develop the natural antibrowning agents of fruits and vegetables. The *Scutellaria baicalensis*, *Salvia miltiorrhiza*, *Saussurea lappa*, ascorbic acid, calcium ascorbate, NaCl, and sucrose were used as antibrowning agents. *Scutellaria baicalensis*, *Salvia miltiorrhiza*, and *Saussurea lappa* were extracted with distilled water and 80% EtOH at 60°C for 6 hrs in 3 times. Apples were purchased from a local market in Seoul, Korea. Apples were cut into 3 mm thick slices with a sharp ceramic knife. The prepared peeled apple slices were dipped for 1 min in various antibrowning treatment solutions (0.1 % extractions of *Scutellaria baicalensis*, *Salvia miltiorrhiza*, and *Saussurea lappa*, 0.1 % ascorbic acid, calcium ascorbate, NaCl, and sucrose). The 0.1 % extractions of *Scutellaria baicalensis*, *Salvia miltiorrhiza*, and *Saussurea lappa* were effective in reducing browning of apple slices as a natural substance. Appearance of sliced apples dipped in calcium ascorbate were better than dipped in other agents; ascorbic acid, NaCl and sucrose. And the agent of calcium ascorbate was delayed browning of apple slices. These agents could be expected to inhibit browning and extending the shelf-life of fruits and vegetables.