Title Browning of fresh-cut eggplant: Impact of cutting and storage

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Abstract

Browning is a major postharvest problem in fresh-cut fruit and vegetables. This phenomenon is markedly observed in eggplant which immediately turns brown after cutting. In the current study, mechanics of cutting and further processing were found to have profound effects on the browning process. Browning was significantly inhibited by cutting using a sharp blade (thickness, 0.04 mm) and immediate dipping in water for 10 min, followed by ambient air-drying and packaging. Scanning electron and fluorescence microscopic examinations showed that sharp blade cutting caused less physical injury and cell death, resulting in reduced leaching of phenolics and polyphenol oxidase activity and hence lesser browning. For commercial acceptability of the technique, storage studies were performed at ambient, 10 and 4 °C, which indicated that fine cut samples could be stored up to 5, 12, and 16 days at these temperatures, respectively, with organoleptically acceptable scores.