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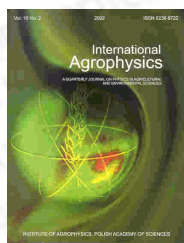
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[previous paper](#) [back to paper's list](#) [next paper](#)

Effects of pre-freezing treatment methods on the quality retention of thawed areca fruit

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abstract The effects of different treatments, before freezing, on thawed areca fruit were studied in this paper. Blanching in 0.5% sodium bicarbonate solution or water had no effect on the prevention of color changes in the thawed fruit. In another, (microwave), treatment, the best result was obtained when the fruit was treated for 30 s in a 446 W microwave oven. Better results were observed when soaking fruit in a 2.0% sodium bisulfite solution for 20 or 30 min, or in a 2.5% citric acid (CA) solution for 15 min. Negative pressure treatment on the fruit in the presence of 2.5% CA solution, combined with vacuum sealing gave the best results in retaining the color of the thawed fruit. However, freezing in an icebox can cause a larger change in the fruit's texture than in liquid nitrogen.

keywords areca fruit, quick freezing, protection color, microwave, liquid nitrogen

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