

Low-temperature storage (with and without vacuum) and osmotic treatments in palm heart (*elaies guineensis*) preservation

Abstract

The objective of this study was to determine the effects of low-temperature storage with and without vacuum packaging and osmotic treatments on palm heart (*Elaies guineensis*). Palm heart samples were packed with and without vacuum and were kept at 5 and 10C. Another group of samples were treated with solutions of sugar, salt and sugar–salt mixture (20%, w/w), potassium sorbate, sodium benzoate and potassium sorbate–sodium benzoate mixture (100 mg/kg each) prior to storage at 5C. Vacuum packaging significantly prolonged the shelf life but temperatures of 5 and 10C did not have significant effect on color and texture. Vacuum packed samples stored at 5C showed minimum changes in color and texture, exceeding 22 days of storage. All osmotic treatments have significant effect on the color development. The whiteness index reduced gradually as storage period progressed. Sugar and salt solutions were better than preservatives in preserving the color and texture of palm heart samples.

PRACTICAL APPLICATIONS

Preservation of fresh palm hearts (*Elaies guineensis*) can be achieved by vacuum packaging and osmotic treatment using sugar, salt and sugar–salt mixture. These preservation methods are simple and practical, making them feasible for commercial purposes. Segregation or sorting of palm hearts (*E. guineensis*) is necessary to achieve homogeneity and consistency in the product shelf life.