

Title Development of volatile fraction of fresh cut osmotically treated mango during cold storage

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Abstract

The influence of minimal processing by osmotic treatment and cold storage on the volatile profile of mango was studied by comparison with the volatile profile of fresh samples. Osmotic treatments, at atmospheric pressure and by applying a vacuum pulse, were carried out using a 45 Brix sucrose solution with (2%) and without calcium lactate, at 30 °C. Samples were treated until they reached 20 Brix in all cases. The volatile profile of the samples was characterised at 0, 1, 4 and 8 days of cold storage at 10 °C, using purge and trap thermal desorption and GC–MS. Osmotic treatment provokes a decrease in the terpene concentration (the most abundant compounds in the volatile fraction mango) and an increase in ethyl acetate and 1-butanol. This fact was especially observed in treatment applying vacuum impregnation with calcium. Treatment at atmospheric pressure, with calcium in the osmotic solution, was the best way to prevent aroma alterations during processing and to ensure its stability throughout cold storage.