Effects of air-drying and storage on vitamin C retention in pectin-vitamin C-coated papaya slices

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The aim of this work is to evaluate the retention of vitamin C in fresh and pre-treated papaya (*Carica papaya* L.), after air-drying and during storage. Vitamin C is a water-soluble antioxidant substance. Hydrocolloids edible coatings possess good barrier properties to gases and are soluble in water. Hence, they can be suitable to apply on food pieces prior to air-drying in order to reduce oxidative reactions. In addition, it can incorporate additives in edible coatings because of its polymeric structure. Papaya slices were immersed in low-methoxyl-pectin solution at 2% (w/w) with commercial vitamin C (1%, w/w). Pectin coating was jellified by immersion in calcium lactate solution at 2.8% (w/w). The pectin-coated and non-coated slices were air-dried at 60 and 70 °C temperatures. Storage was performed in airtight containers, at room temperature and light protected, during 30 days. Vitamin C and water content was analyzed in fresh papaya and in coated papaya, before and after drying, as well as during storage, after three, nine and thirty days. All drying experiments were done in triplicate. Analysis of variance was applied to experimental data to identify significant differences at 95% confidence level (p < 0.05). Vitamin C retention in pectin-coated and non-coated samples was calculated in relation to fresh papaya, after drying and during the storage. Retention was not affected by temperature. Edible coating with vitamin C increased the vitamin C content in the samples after drying and during storage.