

IMPACT OF SALTING, ROASTING AND ARABIC GUM COATING WITH OR WITHOUT ANTIOXIDANTS ON THE OXIDATIVE STABILITY OF CASHEW NUTS DURING STORAGE

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ABSTRACT

In recent years, cashew nuts have received special attention because of its potential role in preventing cardiovascular disease. However, cashew nuts are very rich in total fat (48 wt. %) that can potentially be oxidized during storage. The present study was conducted to evaluate the impact of salting, roasting and Arabic gum coating with or without antioxidants on the oxidative stability of cashew nuts during Storage. Cashew samples were roasted (RCC-G) and salted (RCC-G-S) and coated with Arabic gum, and further treated with 150 ppm BHT (RCC-G-BHT) 150 ppm rosemary commercial extract (RCC-G-Rose) or a combination of both (RCC-G-BHT-Rose). Raw cashew nuts (C) and uncoated roasted cashew (URC) were used as control. All samples were analyzed for free fatty acids percentage (FFA %), peroxide value (PV), p-Anisidine value (pAV) and totox value (TV) at storage time interval from 1 to 10 months at room temperature. In the first four months, no considerable FFA%, PV, pAV or TV was detected in all samples. At the 10th month of storage, the FFA% of raw cashew (C) had the highest significant ($p < 0.05$) value, followed by roasted uncoated (URC) compared with other samples. The PV of RCC-G-BHT, RCC-G-BHT-Rose and RCC-G-Rose samples was the lowest compared with other samples with 1.09, 2.64 and 3.23 meqO₂/kg at the 10th month of storage time, which indicate the high efficacy of BHT and rosemary with Arabic gum coat as antioxidant in cashew. The secondary products resulted from peroxide radical degradation, as measured by pVA, become significant after the 6th month of storage. Roasting of cashew was found to increase the PVA value in all samples. Treatment of cashew with BHT and rosemary, independently, had significantly lowered the pVA compared with other treatment with values of 1.29 and 2.16, respectively. However, treatment with a mixture of BHT and rosemary had a value of 2.9, which could be explicated by antagonistic antioxidant effect between the two. Furthermore, salting of cashew had significantly increase PV, PVA and totox values compared with all other samples after the 6th month of storage

KEYWORDS: Peroxide Values; P-Anisidine Values; Totox Values; BHT; Rosemary; Cashew Nuts.

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