

Effects of drying process and time of storage on fatty acid composition in raisins

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Abstract

Two studies were carried out to investigate fatty acids (FAs) profiles of raisins during postharvest storage. The pre-treated sun-dried (PSD), pre-treated air-dried (PAD), sun-dried (SD) and air-dried (AD) raisins were analyzed after 10, 18, 20, and 38 days, respectively. Among the drying treatments, AD raisins were the best ones in terms of producing a higher amount of saturated fatty acids (SFAs) and unsaturated fatty acids (USFAs) in both studies (drying and storage). Total sixteen FAs were identified and quantified during drying and storage. Out of these, some FAs (C17:0, C23:0, C24:0, and C16:1) were not detected in fresh grapes. A direct relationship was observed between the moisture content and the concentration of FAs during drying. Overall, FAs content did not change during storage. Packaging materials (plastic bag and woven bag) also showed a non-significant effect on FA content. Steric acid (C18:0) and linoleic acid (C18:2) were the most concentrated FAs throughout the drying and storage of raisins.