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Changes in β-carotenecontent, pH and titratableacidity during sulphuring at different concentrations and drying of apricots (*Prunus armeniaca* L.)

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This study was conducted to determine the changes in pH, titratable acidity and β-carotene content during sulfuring at different concentrations (451, 832, 1594, 2112 and 3241 mg SO_2/kg) and sun-drying. The apricots were sulfured by SO_2 gas from liquified SO_2 tank in the same sulfur house and the sulfured apricots were then sun-dried. Fresh apricots and dried apricots containing no SO_2 were evaluated as control groups. As the levels of SO_2 in the samples increased, the titratable acidity values (r =0.967) increased but the pH values (r =0.927) decreased. The increase in titratable acidity values resulted from the formation of sulfurous acid (H2SO3) in the samples after sulfuring. Hydrogen ions supplied by dissociation of H_2SO_3 also caused to decrease in pH values of samples.Changes in β-carotene contents were determined by HPLC. β-carotene content of control group was 527 mg 100 g dry matter. While sulfuring led to increase (24%) in β-carotene contents, drying led to significant reduction (83%) in β-carotene contents. The reduction in β-carotene contents after drying can be attributed to the tendency of porous products to oxidation reactions after drying. Strong correlations were determined between SO_2 concentrations and β-carotene contents of sulfured apricots (r =0.978) and sulfured dried-apricots (r =0.895). SO_2 effectively protected β-carotene due to their high antioxidant capacity. The results of the study showed that apricots after sulfuring should contain minimum 1594 mg SO_2/kg to protect the initial β-carotene content during drying.

Biography

Aysenur Salur was graduated from Department of Food Engineering at Ankara University and started her master degree in 2013. Currently, she is doing the laboratorial analysis of her thesis.

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