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Color stability of sour cherry nectars containing various phenolic extracts and sweeteners during storage

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Changes in color intensity of sour cherry nectars fortified with gallic acid and phenolic extracts obtained from various natural sources (green tea, cherry stem, pomegranate rind and rose petal) were investigated during 3 weeks of storage at 20°C. In the preparation of nectars, three different sweeteners (sucrose, honey and maltose syrup) were used. Sour cherry nectar containing no extract/sweetener was evaluated as “control group”. The ratio of co-pigments to anthocyanins in the nectars was 10:1 (w/w) and the temperature was at 20°C. To determine the co-pigmentation effects in the products, hyperchromic (color intensity, ΔA_{max}) and bathochromic (maximum wavelength, $\Delta \lambda_{max}$) shifts were analyzed. During storage while changes in $\Delta \lambda_{max}$ values of the samples were negligible, significant reductions in ΔA_{max} values were determined. Among sweeteners, maltose led to the highest color intensity in the nectars containing no extract after storage. However, when the phenolic extracts were added to the nectars, the combination of maltose and the extracts showed antagonistic effect on color intensity. Green tea and cherry stem extracts also decreased the color intensity in all samples during storage. The addition of gallic acid (80%), pomegranate rind extract (80%) and rose petal extract (50%) to the nectars containing sucrose significantly increased the stability of color intensity during storage. Similarly, using honey (15%) in the nectar fortified with gallic acid increased the stability of color intensity. We suggest the combination of sucrose with extracts of pomegranate rind or rose petal to produce sour cherry nectars with higher color intensity during storage.

Biography

Mehmet Ozkan completed his PhD in the Department of Food Engineering at Ankara University in 2001. He was appointed as an Associate Professor in 2003 and as a Professor in 2009 in the same department. He has published 30 papers in *SCI Journals*.

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