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Effects of various co-pigments, honey and sugars on anthocyanins and color of sour cherry nectars

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The effects of various co-pigment sources (gallic acid and water extracts obtained from green tea, pomegranate rind and rose petal) and various sweeteners (sucrose, honey and maltose syrup) on anthocyanins stability were investigated in sour cherry nectars. Water extracts of green tea, pomegranate rind and rose petal were added to sour cherry nectars to form co-pigmentation with anthocyanins. Sour cherry nectars were then sweetened by sucrose, honey and maltose syrup. In the nectar samples, the pigment vs. co-pigment ratio was 1:10 (w/w), the pH values were 3.2-3.5 and the temperature was at 20°C. Co-pigmentation was measured by the shift in absorbance (hyperchromic effect, ΔA_{max}) and the shift in the wavelength of the maximum absorbance of the anthocyanins (bathocromic shift, $\Delta\lambda_{max}$). The addition of rose petal and green tea extracts and gallic acid led to significantly increase in ΔA_{max} value while there was no significant co-pigmentation effect of the sweeteners (sugar, honey and maltose syrup) added. In contrast, the combination of phenolic extracts and sweeteners resulted in the increase in ΔAmax value and this significant increase clearly showed the synergistic effect for co-pigmentation when these two added together. The maximum co-pigmentation effect was observed after the addition of rose petals extract including honey as sweetener. This addition resulted in bathochromic shift up to 4.1 nm and increase in absorbance up to 4%. Results demonstrated that gallic acid and rose petal extracts had co-pigmentation effect and increased the stability of anthocyanins in sour cherry nectars containing various sweeteners.

Biography

Kubra Ertan was graduated from Department of Food Engineering at Ankara University in 2012. Currently, she is pursuing her Master degree in the Department of Food Engineering at Ankara University. She has been working as a Research Assistant in the Department of Food Engineering at Mehmet Akif Ersoy University, Burdur since 2013.

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