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# Effects of various co-pigments on the stability of anthocyanins in sour cherry juice concentrate during storage

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This study was carried out to investigate the effects of different co-pigment sources (gallic acid and the water extracts from green tea, pomegranate rind and cherry stem) on anthocyanin (ACN) stability in sour cherry juice concentrate during 110 days of storage at 20°C. Green tea, pomegranate rind and cherry stem extracts were selected as natural source of phenolics. Sour cherry juice concentrate containing no co-pigment source was taken as the control group. The study was performed using a UV-visible spectrophotometer to monitor hyperchromic effect ($\Delta Avis\text{-}_{max}$), bathochromic shifts ($\Delta\lambda vis\text{-}_{max}$) and monomeric ACN content. The changes in those values were considered as the indicators of co-pigmentation effect. Significant increase was found in the hyperchromic effect after addition of gallic acid (17%) and pomegranate rind extract (6%) at the end of storage. However, there were no significant changes in Δλvis-max values of the concentrate samples. Total ACN content of all sour cherry juice concentrates decreased during storage. ACN losses of the products enhanced with co-pigments were 31% (gallic acid), 13% (pomegranate rind extract) and 10% (green tea extract) lower than those of the control sample after 110 days of storage at 20°C. The highest ACN loss (44%) was observed in the samples containing cherry stem extract which may have anti co-pigment effect on ACNs. The maximum co-pigmentation effect was observed in sour cherry juice concentrate enhanced with gallic acid and pomegranate rind extract. Therefore, we suggest the addition of gallic acid and pomegranate rind extract to sour cherry juice concentrate for higher color stability.

## Biography

Buket Orhan was graduated from Department of Food Engineering at Uludag University, Bursa in 2010, and then she received her Master degree from Department of Food Engineering at Ankara University in 2014. Currently, she is pursuing her PhD in the Department of Food Engineering at Ankara University.

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