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Enhancing the color intensity of strawberry nectars by various co-pigments and sweeteners

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The aim of this study was to determine the effects of water extracts from various co-pigment sources (sour cherry stem, cherry stem, pomegranate rind and rose petal) and various sweeteners (sucrose, honey and maltose syrup) on color intensity (CI) of strawberry nectars. Strawberry nectar containing no co-pigment/sweetener was evaluated as control group. Moreover, gallic acid known as one of the strongest co-pigments was also added to strawberry nectar and its effect was compared with those of the other co-pigment sources. The ratio of co-pigments to anthocyanins in the nectars was 10:1 (w/w) and the temperature was at 20°C. The co-pigmentation effects in the products were determined by taking into consideration of hyperchromic (color intensity, ΔA_{\max}) and bathochromic (maximum wavelength, $\Delta \lambda_{\max}$) shifts. Surprisingly, rose petal extract had higher (6%) co-pigmentation effect than gallic acid. However, significant reductions in CI of the nectars were determined after addition of cherry stem (6%) and pomegranate rind (3%) extracts. While the highest CI was determined in the nectars containing maltose, honey showed reducing effect (up to 5%) on CI. The combination of co-pigment extracts and sweeteners showed both synergistic and antagonistic effects on CI. Therefore, the combination should be carefully chosen. If the nectars containing gallic acid, sour cherry stem and cherry stem extracts will be produced, maltose should be used as a sweetener. Similarly using maltose in control group also increased CI. However, if the nectars containing rose petal and pomegranate rind extracts will be produced, sucrose should be used.

Biography

Meltem Turkyilmaz completed her PhD in the Department of Food Engineering at Ankara University in 2011. In the same year, she worked as food controller in Republic of Turkey Ministry of Food, Agriculture and Livestock, Ankara. Since 2012, she has been working in Institute of Food Safety, Ankara University as a Senior Research Associate. She has published 13 papers in *SCI Journals*.

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