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Distribution of Antioxidants between Sour Cherry Juice and Pomace

Authors : Sonja Djilas, Gordana Ćetković, Jasna Čanadanović-Brunet, Vesna Tumbas Šaponjac, Slađana Stajčić, Jelena Vulić, Milica Vinčić

Abstract : In recent years, interest in food rich in bioactive compounds, such as polyphenols, increased the advantages of the functional food products. Bioactive components help to maintain health and prevention of diseases such as cancer, cardiovascular and many other degenerative diseases. Recent research has shown that the fruit pomace, a byproduct generated from the production of juice, can be a potential source of valuable bioactive compounds. The use of fruit industrial waste in the processing of functional foods represents an important new step for the food industry. Sour cherries have considerable nutritional, medicinal, dietetic and technological value. According to the production volume of cherries, Serbia ranks seventh in the world, with a share of 7% of the total production. The use of sour cherry pomace has so far been limited to animal feed, even though it can be potentially a good source of polyphenols. For this study, local variety of sour cherry cv. 'Feketićka' was chosen for its more intensive taste and deeper red color, indicating high anthocyanin content. The contents of total polyphenols, flavonoids and anthocyanins, as well as radical scavenging activity on DPPH radicals and reducing power of sour cherry juice and pomace were compared using spectrophotometrical assays. According to the results obtained, 66.91% of total polyphenols, 46.77% of flavonoids, 46.77% of total anthocyanins and 47.88% of anthocyanin monomers from sour cherry fruits have been transferred to juice. On the other hand, 29.85% of total polyphenols, 33.09% of flavonoids, 53.23% of total anthocyanins and 52.12% of anthocyanin monomers remained in pomace. Regarding radical scavenging activity, 65.51% of Trolox equivalents from sour cherries were exported to juice, while 34.49% was left in pomace. However, reducing power of sour cherry juice was much stronger than pomace (91.28% and 8.72% of Trolox equivalents from sour cherry fruits, respectively). Based on our results it can be concluded that sour cherry pomace is still a rich source of natural antioxidants, especially anthocyanins with coloring capacity, therefore it can be used for dietary supplements development and food fortification.

Keywords : antioxidants, polyphenols, pomace, sour cherry
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