

Mineral Composition of Sweetheart Cherry Using Inductively Coupled Plasma Atomic Emission Spectroscopy

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Key-words: minerals, 'Sweetheart cherry', ICP-AES

Abstract

There are some investigations regarding the physical and chemical properties of sweet cherry (*Prunus avium L.*) fruits, mostly their antioxidant capacity, phenol, ascorbic acid, as well as anthocyanin contents. Only little is known about the mineral content of sweet cherries. In this work we studied the Sweetheart cultivar from Cova da Beira (Portugal), as this fruit is a rich source of nutritional components. Therefore, the mineral content of 'Sweetheart' cherry was studied. Inductively coupled plasma atomic emission spectrometry (ICP-AES) was used for the determination of minor and major elements. Prior to ICP-AES measurement, the samples were mineralized with a mixture of HNO_3 and H_2O_2 . Based on obtained results the content of minor elements was (Cu) 0.107, (Fe) 0.325, (Mn) 0.204 and (Zn) 0.090 mg / 100g. The concentrations of major elements were (Na) 0.629, (Ca) 16.0, (Mg) 24.0, and (K) 523 mg / 100g. For Mg and K, 'Sweetheart' cherry presented higher concentrations than literature: (Mg) 11.0 and (K) 222 mg / 100g. And similar concentrations were assessed for Cu, Fe, Zn and Ca: (Cu) 0.060, (Fe) 0.36, (Zn) 0.070 and (Ca) 13 mg / 100g. The results suggested that 'Sweetheart' cherries are rich in various essential elements, with main emphasis for K and Mg, and might be considered as an important dietary mineral enrichment for individuals deficient in mineral elements.

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Abstract

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