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Czech J. Food Sci.

**Jarošová M., Milde D.,
Kuba M.:**

Elemental analysis of coffee: a comparison of ICP-MS and AAS methods

Czech J. Food Sci., 32 (2014): 354-359

We determined the mineral nutrients and toxic elements (Ca, Cu, Fe, Mg, Zn, Cd, Cr, Mn, Ni, and Pb) in five types of coffee by atomic absorption spectrometry and inductively coupled plasma mass spectrometry. The decomposition of the samples took place in a microwave digestion system with HNO_3 and H_2O_2 reagents. Partial validation of the method was performed by using the certified reference material (NCS ZC 73014). Univariate and multivariate statistical methods were used to compare both the coffee samples and the techniques used. No significant differences were found between two used methods. Significant differences occurred between the coffee samples but only the application of multivariate statistics helps to distinguish among samples from different locations.

Keywords:

coffea Arabica; atomic absorption spectrometry; inductively coupled plasma mass spectrometry metals; univariate statistics; multivariate statistics

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