

Determination of Cadmium , Lead, Nickel, and Zinc in Some Green Tea Samples Collected from Libyan Markets

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Abstract : Green tea is one of the most common drinks in all cities of Libyan. Heavy metal contents such as cadmium (Cd), lead (Pb), nickel (Ni) and zinc (Zn) were determined in four green tea samples collected from Libyan market and their tea infusions by using atomic emission spectrophotometry after acid digestion. The results obtained indicate that the concentrations of Cd, Pb, Ni, and Zn in tea infusions samples ranged from 0.07-0.12, 0.19-0.28, 0.09-0.15, 0.18-0.43 mg/l after boiling for 5 min., 0.06-0.08, 0.18-0.23, 0.08-0.14, 0.17-0.27 mg/l after boiling for 10 min., 0.07-0.11, 0.18-0.24, 0.08-0.14, 0.21-0.34 mg/l after boiling for 15 min. respectively. On the other hand, the concentrations of the same element mentioned above obtained in tea leaves ranged from 6.0-18.0, 36.0-42.0, 16.0-20.0, 44.0-132.0 mg/kg respectively. The concentrations of Cd, Pb, Ni and Zn in tea leaves samples were higher than Prevention of Food Adulteration (PFA) limit and World Health Organization(WHO) permissible limit.

Keywords : tea, infusion, metals, Libya

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