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# Trace Element Determination in Brassica oleraceae var. acephale by Differential Pulse Polarography

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**Abstract:** A fast and simple differential pulse polarographic (DPP) method for the determination of trace elements in a certain form of cabbage is described. This vegetable is commonly used as food in Turkey, especially in the Black Sea region. Using DPP polarograms of wet digested cabbage samples (leaf) in pH 2 and 4 acetate buffer Mo, Cr, Se, Pb, As and Zn quantities were determined. The best separation and determination condition for Cu and Fe was in EDTA at pH 6.5, and for Ni and Zn it was ammonia buffer at pH 9.8. The trace element quantities in digested leaf samples were as follows: Se(IV) about 40 μ g/g, As(III) 83 μ g/g, Cr(III) 23 μ g/g, Zn(II) 60 μ g/g, Mo(VI) 5 μ g/g, Pb(II) 7 μ g/g, Fe(III) 3 μ g/g and Cu (II) 95 μ g/g. Only 3 elements, Cu, Zn and Ni(II), were determined in stalk samples of the same cabbage. Their quantities were very small when compared with those from leaf samples. The Cu(II) content was 0.8 μ g/g, Zn(II) was 16 μ g/g and Ni(II) was only 0.03 μ g/g. This method enabled the determination of heavy trace elements using an inexpensive instrument and without any separation or pre-concentration procedures.

**Key Words:** Cabbage, cole, trace elements, determination, differential pulse polarography

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