

## Toxic Heavy Metal Accumulation by Algerian *Malva sylvestris* L. Depending on Location Variation

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**Abstract :** In the present study, wet digestion with HCl and HNO<sub>3</sub> mixture was used to extract the heavy metals (copper (Cu), chromium (Cr), zinc (Zn), lead (Pb) and cadmium (Cd)) from the leaves, the stems and the roots of *Malva sylvestris* L., which were subsequently analyzed by AAS. The samples (soil and parts of species) were collected from different sites: the industrial area (IA) (Rouiba), the rubbish dump area (RDA) (Boudouaou), the residential area (RA) with large open fields and construction activities (Blida), the Montaigne area (MA) (Chrea) and the high plateau area (HPA) (Berouaguia). The study showed differences in metal concentrations according to the analysed parts and the different sampling locations. In the contaminated site of the industrial area (IA), high content of the toxic heavy metals (Cd: 3.18 µg/g DW and Pb: 34.48 µg/g DW) were found in the leaves of *Malva sylvestris* L. This finding suggests that the consumers of this species could be exposed to a risk associated with this higher level of these toxic metals. It was found that *Malva sylvestris* L. is rich by Zn and Cu in some sites, which are considered to be the essential elements for the human health. The obtained results with the control site (Montaigne area) suggest that this species can be applicable in both the health and food, feasible alternatives as medicinal plant without any risk.

**Keywords :** *Malva sylvestris* L., toxic heavy metal, medicinal plant, impact on human health

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