

**SCREENING OF LEAFY VEGETABLES OF
FAMILY *CRUCIFERACEAE* FOR HEAVY METAL
CONTAMINATION**

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ABSTRACT

As human activities increase, especially with the application of modern technologies, pollution and contamination of the human food chain has become inevitable. Intake of heavy metal-contaminated vegetables may pose a risk to the human health. Vegetables can hyper accumulate metals from the soil and air from polluted environment. Many studies have emphasized the need of this type of investigation in Sri Lanka. In Sri Lanka, accumulation of heavy metals in different sources and vegetables has been widely reported. This investigation demonstrates screening of five leafy vegetable species of family *Cruciferaeae*, for heavy metal contamination. Vegetable samples (*Brassica oleracea* (Cabbage), *Brassica oleracea* (Kohlrabi), *Brassica oleracea* (Cauliflower), *Raphanus sativus* (Radish), and *Brassica oleracea* (Collard Greens)) where collected from the market sites of Nuwara- Eliya, Badulla and Bandarawela areas of Sri Lanka. Collected test vegetable samples were tested for Cu, Mn, Zn and Pb contamination. Samples were prepared by following dry ashing technique and an Atomic absorption spectrometer was used to analyze the prepared samples. A control test was performed by Invitro cultivation of test vegetable varieties. From the estimated concentration of the Lead of selected vegetable varieties can be suggested that the consumption of average amounts of these contaminated vegetables poses a health risk for the consumers as the values obtained are upper the WHO limit for Lead intake and the estimated concentration of Cu, Zn and Mn of selected vegetable varieties can be suggested that the consumption of average amount of these contaminated vegetables do not pose a health risk for the consumers as the values obtained are below the WHO limits. The study concludes that the results of statistical analysis show that heavy metal concentrations varied among the test vegetables and areas and the consumption of average amounts of these contaminated vegetables poses a health risk for the consumers.

Key words: Heavy metal contamination, Vegetable, Family *Cruciferaeae*, Hyper accumulation.