

**DETERMINATION OF HEAVY METALS CONCENTRATION IN
SELECTED *Allium sp.***

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
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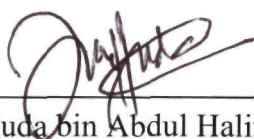
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ABSTRACT

DETERMINATION OF HEAVY METALS CONCENTRATION IN SELECTED *ALLIUM* sp.

Rapid and unorganized urban and industrial developments have contributed to the increment number of heavy metals in food crops. Metals elements spread to environment may be transferred to animals and humans through ingestion of heavy metals contaminated food. Long term exposure to heavy metals lead to number of health risks. In this study, regular-consumed vegetables, *Allium cepa* and *Allium sativum* were selected for determination of heavy metals Cu, Cr and Pb. Concentration of these metals were determined by using Atomic Absorption Spectrometer (AAS) and were compared to FAO/WHO permissible limit. Dry ashing method with 450 °C of ash time and digestion method using 65% nitric acid have been used. The average concentration of Cu in both *Allium cepa* and *Allium sativum* was 0.0564 mg/L. For Pb, 0.10 mg/L and 0.22 mg/L were observed in *Allium cepa* and *Allium sativum*. These metals concentration were below FAO/WHO permissible limit. Different with Cr, the average concentration in both vegetables has exceeded the permissible limit of 0.05 mg/L stated by WHO/FAO which the concentration of *Allium cepa* and *Allium sativum* were 0.07 mg/L and 0.15 mg/L respectively. High concentration of Cr in these vegetables may lead to health problems to the consumer. Limit of Detection (LOD) for Cu, Cr and Pb were 0.0005 mg/L, 0.0005 mg/L and 0.0008 mg/L respectively which indicates that all samples were detected by AAS instrument.