ACCUMULATION AND DISTRIBUTION OF COPPER, LEAD, ZINC, AND CADMIUM IN *Leucaena leucocephala* Lam. (IPIL – IPIL) AND *Bougainvillea spectabilis* Willd. (BOUGAINVILLAE) AROUND THE PERIMETER OF AN INDUSTRIAL PARK IN CITY OF BIÑAN, LAGUNA

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ABSTRACT

This study determined the degree of heavy metals in soil, *Bougainvillea spectabilis* (bougainvillea), and *Leucaena lecocephala* (ipil-ipil). The soil samples of the industrial park have significantly contained higher concentrations of heavy metals as compared with the residential site. It only means that it could highly contribute to the accumulation and distribution of metals in the different plant tissues. Copper was highly accumulated in the roots of *Bougainvillea spectabilis* and leaves of *Leucaena leucocephala*; it could be of the aerial deposition and immobile characteristic of copper. Zinc highly accumulated the same plant tissues as of copper. It could be of the same characteristics as copper as the immobile element but it is different in primary interaction because zinc is a deposited in the soil and roots could be the primary interaction of the metal. Lead is a moderately mobile element and has aerial deposition characteristics like copper which contribute to the high accumulation in the leaves of both of the plant species. Cadmium which is considered as a mobile element is highly spread out through all the plant tissues which contribute to not having any significant variations in all of the comparison done. There is an increasing trend in all of the four metals from industrial site than in residential site. There is an increasing trend of lead in *Bougainvillea spectabilis* from residential to industrial site. Increasing trends could be the ability of the plant to accumulate the heavy metals present in the soil which could be controlled by the mobility and deposition of the elements as well. In the contrary, there is a decreasing trend in copper, zinc, and cadmium in *Bougainvillea spectabilis* from residential to industrial site. Decreasing trend could be the reduction of the ability of plants to accumulate metals in the soil as controlled by deposition and mobility of the elements.

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