

Phytoremediation of Cadmium by *Brassica campestris* L

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SUMMARY

Waste water treatment of the industry still uses the chemical process with flocculation and coagulation by chemical compound. This paper describes phytoremediation, that is a remediation technology of metals from industrial waste which uses biological system (*Brassica campestris* L). The advantage of this technology is that it is environmental friendly and low-cost. The discussion of phytoremediation is limited to phytoaccumulation and phytostabilization. Phytoaccumulation is the ability of plant to accumulate heavy metals in shoot biomass. Its process is influenced by intake of metals, pH, and time of contact. Accumulation (absorption) will be maximum if intake of metals, pH, and time of contact are optimized. Plant is used in studying phytoremediation that genus brassica so it is able to transfer the heavy metals and radioactive efficiently and rapidly. In addition to crops least short. But it is including in horticulture plants. To identify the center of accumulation in plant, We need to studying phytostabilization. Its process is influenced by concentration and type of ligands. Therefore both of parameters need optimizing. Based on data of AAS measurement, maximum absorption is gained intake concentration is 20 ppm, pH is 6.5 and 6.8, while time of contact is 15 days. Time contact is added, absorption not increase. Phytostabilization result concentrations and types of ligands optimum at 1:1.5 (citric acid) and 1:1 (EDTA). Based on measurement by FTIR, we will identify type of group function in plant structure, mainly in root and in shoots. In root there are not change of shift absorption, so interaction between group function and Cd ions occurs but not yet in shoots. In conclusion phytoremediation can become one of alternative for waste water treatment of the industry.