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A Preliminary Study on Induction of Phytochelatinin *Menthapiperita* through Cadmium Stress

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Abstract:In this study, it has been proven that *Menthapiperita* can grow in cadmium contaminated soil. It is a fast growing plant, requires minimum attention, and spreads easily. Different concentrations of cadmium were applied to the soil, and the uptake of cadmium was studied using Atomic Absorption Spectroscopy. The plant showed an increase in uptake of cadmium from 5 ppm to 50 ppm in the shoot system; however, there was a decrease in the uptake in 100 ppm concentration. The root system also showed an increased uptake of cadmium from 5 ppm to 100ppm. Identification of Phytochelatin 3 in root tissue sample was carried out by using ESI-MS. Phytochelatin 3 was identified at 753 (m/z). *Menthapiperita* was a metal indicator rather than a hyperaccumulator.

Key words: Heavy metal, Cadmium, *Menthapiperita*, Phytoremediation, Phytochelatin.

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