

## Influence of Microbial Inoculation on Heavy Metals Absorption of Three Reforestation Species

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*Pterocarpus indicus*, *Acacia mangium* and *Eucalyptus urophylla* are fast growing tree species that thrive in diverse environments and have the potential to rehabilitate heavy metals (HM) contaminated areas i.e. mined-out areas. To determine the effect of microbial inoculation on the absorption and translocation of HMs, three treatments consisting of no microbial inoculants, mycorrhiza and mycorrhiza+NFB were applied to three reforestation species following a 2-factor experiment in RCBD. The bioconcentration factor (BCF) values indicate that *P. indicus*, *A. mangium* and *E. urophylla* accumulated higher HMs in their roots with respect to their corresponding rhizosphere soil, therefore reducing the availability of HMs in the environment. Among the tree species *P. indicus* inoculated with mycorrhiza+NFB seems to be the best bioremediation species and most effective in reducing HM in soil having had the highest BCF for Cd, Pb and Cu. Moreover, even with just mycorrhizal treatment, *P. indicus* was still able to effectively exclude Cu having shown the highest translocation factor (TF) for Cu. All the three reforestation species, however, when inoculated with microbial fertilizers have the potential to remediate Cu, Pb and Cd laden soils and are recommended to be utilized in bioremediation of HM contaminated sites. It is also recommended that inoculants be tested on plants used as food in HM contaminated areas to determine their effects on their HM absorption to address the possibility of HM entry in the food chain.

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