

**CORRELATION BETWEEN SINGLE NUCLEOTIDE POLYMORPHISM
GENOTYPE AND PHENOTYPIC RESPONSE TO CADMIUM EXPOSURE
IN *POPULUS* SPP.**

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Salicaceae, phytoremediation, candidate genes, single nucleotide polymorphisms

Species within the genus *Populus* include potential phytoextractors of heavy metal ions from contaminated soils, and genetic markers predictive of performance would be a useful tool for selection and breeding. Here, we have identified sequence variation within seven target and three non-target genes among a set of 11 *Populus* spp. clones. Sequence variants were present in both the coding and non-coding regions; the former can potentially affect the functionality of the target genes. At the same time, the effect of exposure of the clones to cadmium ions on the morphology and the distribution of various metal ions was investigated by scanning electron microscopy microanalysis. A positive correlation was established between genetic variation, cadmium accumulation and its bioconcentration in the root.