

Potential of Different Poplar Clones in Phytoextraction of Some Heavy Metals

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This research involves investigation of potential of poplar clones for heavy metals phytoremediation. The experiment was conducted in controlled conditions in the greenhouse with hydroponically grown poplar cuttings of following poplar clones: *Populus x euramericana* clone EA 8, (i) *Populus deltoides* clone PD 3 and (iii) complex inter-section hybrid (*P. nigra x maximowitzii*) x *P. nigra* var. "Italica" clone NM 8. Plants were grown at containers with Hoagland nutrient solution containing various concentrations of cadmium (Cd), nickel (Ni) or lead (Pb) ranged from 0, 10 and 100 ppm each. During their growth enzymatic activity of nitrate reductase (NRA) was assessed. After the growing period plants were harvested and accumulation of heavy metals and nitrates together with heavy metal phytoextraction coefficient was assessed. Highest concentrations of heavy metals decreased both biomass production and NRA of plants. Contaminant accumulation showed different potential of investigated clones and their plant compartments for phytoextraction.

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