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Effect of heavy metal ions on the antioxidant properties of *Mentha spicata*

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Oxidative stress arises when there is a marked imbalance between the production and removal of reactive oxygen species (ROS) in favor of the prooxidant balance, leading to potential oxidative damage. ROSs was considered traditionally to be only a toxic byproduct of aerobic metabolism. Plants can't move away and are therefore continuously confronted with unfavorable environmental conditions (such as soil salinity, drought, heat, cold, flooding and heavy metal contamination). Among heavy metals, cadmium (Cd), Mercury (Hg), Lead (Pb) and Nickel is a non-essential and toxic metal, rapidly taken up by roots and accumulated in various plant tissues. In the present study, the effects of heavy metals generating antioxidative defense systems (i.e. total phenolics estimation, antioxidant activity assay etc) were studied in the leaves of *Mentha* plants grown in soil polluted with heavy metals (Cu, Pb, Hg, Ni). Treatment with metal caused the problem of an elevation in its bioavailability in soil and its concentration in leaves and stems. The antioxidant responses appeared to be metal specific. The elevation of non enzymatic activity in leaves was the only more general reaction to metal exposure, which was seen by analyzing the effects of soil metal contamination on *Mentha spicata*.

Biography

Tara Pokhriyal has completed her MSc in Biochemistry at the age of 21 years from Lovely Professional University Jalandhar Punjab. She is preparing for PhD. She has published one abstract on Biosensor in OMICS Publication 2012 and currently is self employed.

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