



## Studying the ability of *Dalbergia sisso* seedlings to tolerate planting in soil contaminated with Cadmium and Nickel

\*Hashish Kh. I, Rawia A. Eid, EL-Quesni, F. E. M. and Azza A. M. Mazhar

\*Ornamental Plants and Woody Trees Department, National Research Centre, El-Bohouth St., (Formerly El. Tahrir St., ) Dokki, Giza, Egypt. Postal Code :12622.

**Abstract :** This investigation was carried out at Experimental area of National Research Centre, Dokki, Giza, during the two successive seasons of 2014 and 2015. The objective of this study is to evaluate the sensitivity of *Dalbergia sisso* seedlings grown on sandy soil conditions to various concentrations of both cadmium ( Cd) and nickel (Ni) i.e. (0,20, 40 and 60 ppm ) in irrigation water. Results showed that all tested treatments of both heavy metals (Cd and Ni) caused significant decrease in plant height as compared with control plants with the exception of 20 and 40 ppm Cd treatments. The fresh and dry weight of leaves stem and roots were significantly increased by 20 and 40 ppm led to significant decrease in fresh and dry weight of all seedlings organs in most cases. In this context, the obtained results stated that carbohydrates %, Chlorophyll (a, b) and carotenoids increased with the untreated plants.

The same results were obtained by both heavy metals on nitrogen and Potassium percentage. Cadmium and Nickel content increased by increasing Cd or Ni concentrations individually combined. This study recommends that the growth parameters and chemical constituents of *Dalbergia sisso* seedlings can tolerate cadmium and Nickel up to 40 ppm.

**Key ward :** *Dalbergia sisso* , Heavy metals , Cadmium, Nickel, Contamination.