Effect of endophytic fungi on Cd tolerance of Festuca *arundinacea* and *Festuca Peratensis* grown in a hydroponic system

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Fungal endophytes are world wide distributed in graminoid species of Poaceae family. Endophytic fungi from genus *Neotyphodium* have been found in many cool-season grasses such as Festuca species. The presence of the fungi has been associated with superior qualities in the host plant such as various biotic and abiotic stresses tolerance which may help using the plants in phytoremediation of heavey metal contaminated soils. . A greenhouse study was established to test the hypothesis that plants infected with endophytic fungi may be able to tolerate high concentrations of cadmium. Two infected and non-infected with endophytic fungi species (*Festuca arundinacea* and *Festuca Peratensis*) were grown in a hydroponic system with different levels of Cd^{2+} (0, 5, 10 and 20 mg L^{-1}) for 2 months. Metal-toxicity symptoms were only observed at 20 mg L^{-1} Cd^{2+} level. *Festuca Peratensis* had more biomass and Cd uptake in all treatments in comparison with *Festuca arundinacea*. Results showed that endophytic fungi can help the plant to tolerate high concentration of Cd and this depends on plant species.