

## EFFECT ON MYCORRHIZAL COLONIZATION ON ADDITION OF ZINC AND CADMIUM LEVELS IN *ELUESINE COCACANA* L

DEEKSHA KRISHNA & H. K. SACHAN

School of Agricultural Sciences, College of Agriculture, Fisheries & Forestry,  
Fiji National University, Republic of Fiji

### ABSTRACT

A pot culture experiment was carried out to study the effects of arbuscularmycorrhizal fungi on finger millet mycorrhizal colonization, Zinc and Cadmium uptake under increasing Zn and Cd levels using a factorial design with 4X4 treatments with four levels of strains of mycorrhizal fungi viz. uninoculated control ( $M_0$ ), inoculation with *Gigaspora* ACP-1( $M_1$ ), *Glomus* ACP-2( $M_2$ ) and *Scutellospora* ACP-2( $M_3$ ) and four levels of heavy metal each of zinc sulphate at the rates of 0, 150, 300 and 450 mg Zn kg<sup>-1</sup> soil and Cd at the rates of 0,25,50 and 100 mg Cd Kg<sup>-1</sup> soil to find out the effects of inoculation with mycorrhizal strains under doses of Zn and Cd on finger millet (*Eluesinecoracana* L.) at 30,60 and 105 days after sowing (DAS). In absence of Zn and Cd all the three fungal strains were equally effective in promoting plant growth, nutrients uptake and root colonization. When Zn and Cd were added to soil, the plant growth, uptake and mycorrhizal root colonization of nutrients decreased over control. *Glomus* ACP-2 ( $M_2$  strain) was found to be the most tolerant strain to the increasing levels of Zn and Cd addition to soil over the other two strains.

**KEYWORDS:** Arbuscularmycorrhizal, Cadmium, Fungi, Finger Millet, Soil Pollution, Zinc