

**B-58: Fractionation of zinc and copper in two differently managed upcountry ultisols of Sri Lanka**

K A Nandasena, M A A M Jayaratne  
(Dept of Soil Science, Faculty of Agric, Univ of Peradeniya)

The distribution of different forms of zinc and copper in fallow and cultivated upcountry ultisols was investigated. The chemical extraction method used to extract zinc and copper was based on a method described by Murthy (1982). Four different fractions, namely water soluble and exchangeable (WS+EX) zinc and copper, amorphous sesquioxide (AO) bound zinc and copper, crystalline oxide (CO) bound zinc and copper and residual (RS) zinc and copper were determined.

Total zinc decreased with depth (0-20, 20-40 and 40-60 cm) of soil and the total zinc in cultivated soil was higher than in fallow soil. This may be attributed to intensive use of organic manure and fertilizers in vegetable cultivation. Distribution of zinc showed a wide variation among the soils. In 3 layers of both soils, WS+EX Zinc, AO Zinc, CO Zinc and RS Zinc ranged from 2.42 to 9.68, 4.47 to 15.14, 13.34 to 47.81 and 44.16 to 75.67% respectively. About half to two third of total zinc was encountered as residual zinc which may contains organically bound zinc also. The distribution of different forms of copper also showed a variation among the soils. In 3 layers of both soils, WS + EX Copper, AO Copper, CO Copper and RS Copper ranged from 0.34 to 5.66, 5.10 to 11.82, 2.54 to 58.53 and 26.29 to 90.18% respectively. Similar to zinc, the residual copper fraction showed higher value.