



IMPACT OF HEAVY METAL COPPER ON SEED GERMINATION AND PLANT GROWTH IN WHEAT, MAIZE AND SWEET PEA OF FAIZABAD

Vijay Kumar Upadhyay and G. C. Pandey

Department of Environmental Sciences, Dr. R. M. L. Avadh University, Faizabad-224001

(Email- gcpandeyenv@yahoo.com)

Received: 24-02-2012

Accepted: 24-03-2012

The present investigation was carried out to see the ability of plants seed [(Wheat (*Triticum aestivum*, L.cv. PBW343), Maize (*Zea mays* Sunder, 4125) and Sweet pea (*Pisum sativum*)] to germinate and grow in media containing heavy metal (Cu). Following exposure of different concentrations of Cu (5, 25, 50, 75 and 100 mg/l), Growth rate index (GRI), seedling vigour index (SVI), % phytotoxicity and metal tolerance index (MTI) in wheat, maize and sweet pea were determined, respectively, under laboratory conditions. It was found that the 5 and 25 mg/l dose of Cu was stimulated the growth of root and shoot of plants. The dose of >50 mg/l Cu significantly reduced the ability of the seed to germinate and grow in metal contaminated environment. However, maize was able to germinate and grow efficiently at less than 100 mg/l Cu concentration. Result reveals that less than 50mg/l metals concentration increased the GRI and SVI value while more than 50mg/l decreased these values in wheat, maize and sweet pea crops.