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Abstract

Estimation of Metal Ions in Various Soil Samples in Relation to Crop Production (wheat, mustard, barley) at Different Region of Dehradun India

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Abstract:
Metals in the form of salts or as such have a profound effect on development and growth of crops. Various soil samples at different regions of Dehradun (India) have been analysed analytically for the concentration of various metal ions in relation to the growth and development of wheat, mustard and barley. The various metal ions have been found in a good concentration range at which the concerned crops could show maximum growth and development. The concentration of various salts like phosphate ion as determined spectrophotometrically was found to be in between 0.732 to 1.610, for NO3- the concentration was found in between 0.210 to 0.998 mg/kg, and the concentration of NO22- was found to be 0.138 to 0.475 mg/kg. The metal ions were determined analytically and the concentration of various metals like Pb2+ was found in the range of 0.101 - 0.265 mg/kg, Zn in the range of 0.047 – 0.175 mg/kg, Cu in the range of 0.015 – 0.101 mg/kg and the concentration of Fe was found in the range of 0.120 – 0.462 mg/kg. Na, K, Li and Ba were analysed by flame-photometry and the concentration of Na was found in the range 0.10- 0.47 ppm, K in the range of 0.70 – 2.4 ppm, Li 0.00 – 0.01 ppm and the Ba in the range of 0.00 – 0.03 ppm. Also the data reveals the distributions of heavy metals in the agricultural land of the concerned region and can be used to estimate the risks associated with the consumption of crops grown on such soils.

Biography:
Dr. Mohd Amin Mir, Assistant Research Professor at Prince Mohammad Bin Fahd University Al Khobar, Kingdom of Saudi Arabia. He was Assistant Professor from 2018 to 2020, at Uttaranchal University Department of Chemistry, Dehradun, (Uttarakhand). He has successfully completed his PhD in Chemistry at Uttarakhand Technical University Dehradun (Uttarakhand), India. Dr. Amin Mir had published more than 50 research articles in various International and National journals Dr. M. Amin Mir got Young Scientist Award, Chemical Sciences, Aufau International Award 2016. Best Researcher Award in "92nd International Research Awards on Engineering, Science & Technology" Pondicherry, India organized by IOSRD.

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