

THE DISTRIBUTION PATTERN OF HEAVY METALS IN THE ISFAHAN INDUSTRIAL REFINERY REGION

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INTRODUCTION

Nowadays, the soil pollution by heavy metals is a crucial biological and environmental concern because of its potential ecological damages. From among the all pollutants, the heavy metals (Iron, Copper, Zinc and Manganese) can cause particular ecological, biological and hygienic effects on the environment of the living organisms. In this research, the presence and concentration of the heavy metals in the soil of the region was measured.

MATERIALS AND METHODS

After preparing the needed maps of the under consideration region, field inspection was achieved. Then, based on the present applications the soil samples were taken from 0-30 cm and 30-60 cm depths at eight sites to gather full data about the soil pollution condition of the under consideration region. The concentration amount of the heavy metals in the soil samples was measured and recorded using the exact and precise experimental methods and Atomic Absorption Spectrometer.

Results and discussion

The results of this study revealed that the heavy texture, the high electrical conductance (1.7-9.5 ds/m) and the high amount of the lime in the soil of the under consideration region have led into the low nutrient and high acidity of it which respectively have led into the low absorption of the useful organic materials especially Phosphorus, Iron, Copper, Zinc and Manganese by the plants and as a result, the plant growth has been limited in the soil of the Isfahan Refinery region.

So, to enrich the soil of the under consideration region it is suggested to add the necessary enriching organic materials to it.

Key words: Environmental pollution, heavy metals, trace elements, chemical contaminant

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