Click www.researchjournal.co.in/online/subdetail.html to purchase.

RESEARCH ARTICLE

The AJEC
THE ASIAN JOURNAL OF EXPERIMENTAL CHEMISTRY
Volume 7 | Issue 1 | June, 2012 | 1-4

# Status of micro and secondary nutrients in deep black soils of Narsinghpur district of Madhya Pradesh

■ A.KHAMPARIA, S.K. CHATTERGEE AND G.D. SHARMA

Author for Correspondence -

**A. KHAMPARIA**
Department of Chemistry, Government Nagarjune P.G. Science College, RAIPUR (C.G.) INDIA

See end of the article for authors affiliation

**ABSTRACT -** For determining the status of micro and secondary nutrients, 200 soil samples were collected from deep Black soil zone of five tehsils of Narsinghpur district (M.P.). The analysis shows there is large variation in pH, electricalcanductivity, organic carbon content in the region and nutrient contents also vary in different tehsils of Narisinghpur district. The Zn, Cu content increase as organic carbon increased but unaffected due to pH, but Fe and Mn contents decreased with the increase in soil pH.

**Key words** - Nutrient, Variation, Organic carbon, Soil

**How to cite this paper -** Khamparia, A., Chattergee, S.K. and Sharma, G.D. (2012). Status of micro and secondary nutrients in deep black soils of Narsinghpur district of Madhya Pradesh. *Asian J. Exp. Chem.,* **7**(1) : 1-4.

**Paper history - Received :** *29.11.2011;* **Sent for revision :** *01.03.2012;* **Accepted :** *01.04.2012*

Plants grow by absorbing nutrients from soil. The makeup of soil and its acidity determine the extent to which nutrients are available to plants. Nutrients needed in relatively large quantities are called macronutrients and those needed in relatively small quantities are called micronutrients. These are baron, copper, iron, chlorine cobalt, zinc and sulphate in several cases cause low yields and reduced crop growth. Even often use of NPK fertilizers have been reported which is the result of micronutrients imbalances. Chhabra *et al.* (1996) reported that Zn and Fe decreases in the soil with pH of the increasing soil. Similarly Shipmate *et al.* (2003) reported effects of soil properties by nutrient contents.

## EXPERIMENTAL METHODOLOGY

**Collection of samples :**

200 soil samples were collected from five Tehsils of Narsingpur district. The collected samples were air dried and crushed with a wooden mortar and pestle up to the size of 2mm, then analyzed for physico-chemical properties and nutrients contents.

**Physico-chemical properties:**

*Soil pH :*

Soil pH was determined by glass electrode pH meter in 1:2 soil water suspensions (Jackson,1973).

*Electrical conductivity:*

Electrical conductivity was measured in the supernatant liquid of 1:2 soil water suspensions by conductivity meter (Jackson, 1973).

**$CaCO_3$:**

Analysis of soil calcium carbonate content was done using rapid titration method (Jackson, 1973).

**Organic Carbon:**

Rapid titration method (Walkley and Black, 1934).

**Nutrient analysis**:

Micronutrients : Zn, Cu, Fe, Mn

Micronutrient: DTPA extraction method (Lindsay and Norvell, 1978) with the help of Atomic Absorption