

## **Evaluation of AB-DTPA and DTPA Extractants for Cationic Micronutrients in Calcareous Soils**

**B Sravani, P R K Prasad, P Prasuna Rani and R Lakshmipathi**

Department of Soil Science and Agricultural Chemistry, Agricultural College, Bapatla 522 101

### **ABSTRACT**

This study was conducted in order to evaluate the efficiency of ammonium bicarbonate-DTPA (AB-DTPA) and DTPA extractants for cationic micronutrients (Zn, Fe, Mn and Cu) in calcareous soils of Piduguralla mandal. The relationships between the amounts of micronutrients extracted by AB-DTPA with those extracted by DTPA (the conventional extraction method widely used in soil testing laboratories widely used in soil testing laboratories in India) and those taken up by blackgram were elucidated. Between DTPA and AB-DTPA extractants tested for micronutrient availability, the mean available micronutrient content was the highest in AB-DTPA than DTPA and their efficiency in extracting available micronutrient content of soils was higher in AB-DTPA than DTPA based on correlation values in the pot culture study. Highest positive and significant correlation was observed between zinc, iron, manganese and copper uptake and AB-DTPA extracted micronutrient cations (0.451\*\*, 0.941\*\*, 0.443\*\* and 0.386\*\*, respectively) than with DTPA extracted cationic micronutrients (0.437\*\*, 0.489\*\*, 0.441\*\* and 0.379\*\*, respectively). Since DTPA and AB-DTPA extractants showed significant positive correlation ( $r = 0.902^{**}$ ,  $0.939^{**}$ ,  $0.907^{**}$ ,  $0.897^{**}$ ) with each other and with that of blackgram uptake, suggested that AB-DTPA could be used effectively for estimating available cationic micronutrients in calcareous soils.