

## **Appraisal nutrient status of the cultivated lands of Indo-Gangetic plain in Mirzapur district of Uttar Pradesh**

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**ABSTRACT :** Capacity of a soil to function within ecosystem boundaries to sustain biological productivity, maintain environmental quality and promote soil and plant health. A healthy soil would ensure proper retention of water and release of nutrients, promote and sustain root growth, maintain soil biotic habitat, respond to management and resist to degradation. Soil health evolution of an area of or region is an important aspect in context of sustainable agriculture production. The macro nutrients govern the fertility of the soils and control the yields of crops. The Indo-Gangetic plain of Mirzapur district was selected for the study. Thirty surface soil (0-15cm) samples were collected from the cultivated land villages located on the bank of river Ganga in Mirzapur district and analysed for physico-chemical properties and available N,P, K, and S status. The mean bulk density is 1.42 while, particle density is 2.52 and water holding capacity of soil vary 38.02 to 46.92 per cent. pH , EC and CEC vary according to cropping system and fertilizer application pattern. 56.7 % samples having the low organic carbon status and 43.7% samples are medium in organic carbon, the range of organic carbon vary from 2.7 to 7.5 g/kg. The availability of nitrogen vary from 235 to 492.80 kg/ha, phosphorus ranges from 14.16 to 40.39 2 kg/ha and sulphur availability vary from 14.16 to 40.39 kg/ha, while range of potassium vary 112.0 to 463.68 kg/ha).

**Key Words :** Nutrients availability, soil characteristics, physico-chemical, Indo-gangetic zone.