



National Conference on
Latest Innovations in Engineering, Science, Management
and Humanities (NCLIESMH- 2024)

26th May, 2024, Raipur, Chhattisgarh, India.

CERTIFICATE NO : **NCLIESMH /2024/C0524516**

Evaluation of Soil Macronutrients to Enhance Soil Fertility and The Yield of Mango (Mangifera Indica L.) in The Malihabad Area of Uttar Pradesh, India

Sarika Bajpai ¹, Krishna Narayan ²

Associate Professor in Chemistry, PSIT, Kanpur, UP, India

Email: dr.sarikabajpai@gmail.com

ABSTRACT

The evaluation of changes in soil organic carbon and the availability of inorganic nutrients (N, P, K, Ca, Mg) in a mango orchard soil was conducted over the period of 2023-24, specifically in the months of June, September, December, and March, at three-month intervals. This study took place in the subtropical region of Lucknow, India, and involved a comprehensive chemical analysis of soil samples collected from various sites within the Malihabad block of Lucknow District. The pH levels indicated a highly alkaline soil, ranging from 8.0 to 12.9. Monthly applications of organic matter, specifically *Azolla pinnata*, were made within the tree basin. The results demonstrated a significant increase in the concentrations of soil nutrients in both organic and inorganic amended soils when compared to the control group. The incorporation of organic matter and biofertilizers effectively enhanced the balance of soil organic carbon content and the concentrations of available inorganic nutrients (N, P, K, Ca, Mg).

Key Words: Soil Fertility, Soil Organic Carbon, Total Nitrogen, Bio-Fertilizers