

IMPACT OF CLUSTER BEAN-WHEAT CROPPING SYSTEM ON PHYSIO-CHEMICAL PROPERTIES AND CARBON STOCKS OF SOILS OF EASTERN HARYANA

***Shubham Lamba, V.K. Phogat and Rita Dahiya**

Department of Soil Science, CCS Haryana Agricultural University, Hisar, 125004

*E-mail: *shubhamlamba@gmail.com*

Abstract—An experiment was conducted to study the effect of Cluster bean-Wheat cropping system on physio-chemical properties and carbon stocks of soils of eastern Haryana. The Cluster bean-Wheat cropping system is an important cropping system of eastern Haryana which is widely spread in Gurugram and Mewat (Nuh) districts and in parts of Faridabad, Sonapat and Jhajjar districts. The soil samples were collected from selected fields under Cluster bean-Wheat cropping system as well as from adjacent uncultivated fields to facilitate comparative analysis. A total of five profile samples each from six depths (0-15, 15-30, 30-45, 45-60, 60-90 and 90-120 cm) were collected and their physio-chemical properties was analysed. Bulk density of the uncultivated field varied from 1.59 to 1.60 Mg m⁻³ whereas cultivated field bulk density varied from 1.60-1.61 Mg m⁻³ as observed from top 0-15cm layer to deepest 90-120 cm layer. NPK and soil organic carbon status of uncultivated and cultivated fields was found in low ranges. The soil carbon stock (Mg C ha⁻¹) in the uncultivated fields was found higher as compared to adjoining cultivated fields but with no significant differences which is due to coarse texture of soil, higher annual temperature and rainfed farming which leads to less build-up of carbon stock.