

POST HARVEST ASSESSMENT ON SOIL FERTILITY - A KEY TO BMPs

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Field experiment conducted for a period of 3 years on post harvest assessment of soil fertility on a calcareous (8.63 pH) clay loam soils of Coimbatore under Southern Hills and Plateau Region with medium fertility (low in OC & avail. N, medium in P & high in K) with poor quality irrigation water (EC of 3.52 dsm-1 and TSC of 0.23 %) revealed that cropping system primarily attributed to physico-chemical changes in the soil. Reduction in pH was more apparent after cropping system (cotton-jowar) and in lower depth (15-30 cm) over that in mono-cropping and surface soil (0-15 cm). However, increase in EC was more conspicuous in surface soils (because of retention of salts in the surface soil following evaporation of water) and in the double cropping system in contrast to its significantly reduction in lower depth irrespective of cropping systems. Tests showed higher available sodium analyzed under the surface soil led to higher EC over that in lower depth where salt concentration decreased even beyond the initial level.

Phosphorus and potassium status in the soil were improved in both the soil depths following mono-cropping system in comparison to double cropping because of crop uptake. Yet the higher availability of nutrient in the former did not attribute to yield increase and was more likely to move from the soil by the process of dynamism of nutrient loss. Nitrogen status of the soil was more or less similar in both the depths yet was little higher under monocropping system. Thus, appropriate crop management on a particular/specific soils, keeping in view its post harvest status both from availability & dynamics, plays a critical role in the best management of supplied inputs (i.e., best management practices, BMPs) and soil/crop sustainability.