

Research Article

Depthwise distribution of macronutrients, micronutrients and microbial populations under different land use systems

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Summary

The research was conducted at Punjab Agricultural University, Zonal Research Station for Kandi area, Ballawal Saunkhari to investigate the surface and profile distribution of macronutrients, micronutrients and microbial parameters in four land use systems. The results revealed that forest land use system had significantly higher levels of macro, micronutrients and microbial parameters compared with cultivated, pasture and undisturbed land use systems. Further, among the four land use systems, forest and cultivated land use systems were found fertile and more productive. The higher levels of macro, micronutrients and microbial parameters in cultivated land use system were due to addition of fertilizers and farm yard manure whereas, higher levels of microbial parameters in forest land use system were due to the regular addition of organic matter in the form of leaf litter. Pasture and undisturbed land use systems exhibited low magnitude of soil fertility parameters and thus were less productive. Also the soil samples drawn from profiles of cultivated and forest land use systems in the watershed had higher levels of soil fertility parameters compared with the remaining two land use systems. Higher levels of soil fertility parameters in profile were associated with higher content of clay and organic matter. The magnitude of soil fertility parameters generally decreased with depth in profile.

Key words : Micronutrient, Macronutrient, Land use system, Surface and profile distribution, Microbial parameters

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