Title: Effect of soil PH on distribution of soil organisms

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Abstract

Soil pH is a very influential variable in soil. The degree of acidity and alkalinity of soil determines the type and number of soil organisms present in the soil. Presence of soil organisms is important because it improves soil health, enables deeper root growth, improves soil structure and also increases disease resistance in the soil. This study aimed at examining the effect of pH in soil types, number and distribution of soil organisms. Three different samples were collected from four different sites, namely: the university forest (site 1), farm area (site 2), ABH (bare soil) (site 3) and dam 5 (site 4) using a soil auger .The soil pH level was measured using a soil digital pH meter, and Soil organisms determined using bromothymol blue solution. The test was conducted based on fact that when living organisms breathe they give out carbon dioxide gas as a waste product. The results are be subjected to two way Analysis of Variance (ANOVA).

Results indicated that there was a relationship between the number of organisms in relation to land type is at $P = 0.0016$. The forest had the highest mean number of microorganisms (9.8), followed by dam 5 (6.9), then the farm (3.3) and ABH with the lowest (3.2). There was a significant relationship between pH and its effect on the distribution of soil organisms at $P= 0.013$. The mean PH values for the forest (6.5), dam 5 (6.6), the farm (6.6) and ABH (6.5) showed that the soils were weakly acidic. This implies that the number of soil organisms was more influenced by the type of land as opposed to soil PH. Undisturbed habitats such as the forest and dam 5 supported more number of organisms compared to the farm and the ABH. This study recommends that habitats that are continuously used for various activities should be well managed so as to support higher number of organisms.