

BENEFICIAL MICROFLORA IN RHIZOSPHERE SOIL UNDER SELECTED EXOTIC FOREST TREE SPECIES

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Abstract: A field investigation was carried out with four exotic tree species (*Acacia auriculiformis*, *A. mangium*, *Casuarina equisetifolia* and *Swietenia macrophylla*) planted at 2m × 2m spacing and of about 30 years age at Kerala Forest Research Institute sub-centre Nilambur. The specific objective of the study was to examine the population variations of beneficial microflora in rhizosphere soil, due to long term occupancy of these trees. The rhizosphere soils were collected for isolation and enumeration of soil microflora like actinomycetes, bacteria, fungi, N-fixing bacteria, P-solubilizer and K-solubilizing bacteria population. It was found that, over the years, the tree species influenced the soil microflora. The highest population of fungi, nitrogen fixing bacteria, phosphate solubilizing microorganism and potash solubilizing bacteria was recorded under *A. mangium*. The highest mean population of actinomycetes and bacteria was associated with *C. equisetifolia*. These four exotic tree species taken part actively in the improvement of soil quality and soil health which are the major determinants of sustainable soil productivity.

Keywords: Exotic forest tree species, Actinomycetes, Bacteria, Fungi, Beneficial microflora

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