

Abstract

The study is focused on the possible effects of Takakura compost towards enhancing the metabolic activity and microbial diversity of Plant Growth Promoting Microorganisms (PGPM) . Different varieties of PGPM can be found depending on microbial extraction site whether it is from Rhizosphere or Endosphere. Saga Rambat (*Abrus precatorius* L) treated with Takakura compost was used as a sample for microbial characterisation of PGPM within Takakura compost. Microbial samples were extracted from Rhizosphere and Endophyte from Takakura treated and untreated samples and underwent microbial community characterisation using BioLog Ecoplate. Average Well Colour Development (AWCD) is calculated to indicate microorganisms metabolic activity, and Substrate Average Well Colour Development (SAWCD) is calculated to indicate diversity in the microbial community of Ecoplate. AWCD results indicate the effectiveness of Takakura composting in improving metabolic activity of the PGPMs residing within the saga rhizosphere. However, minimal changes in metabolic activity between endophytic samples suggests ineffectiveness in improving endophytic PGPMs microbial activity . SAWCD results indicate similar results in microbial preference of utilisation of carbon substrates between Takakura treated and untreated samples from both Rhizosphere and Endosphere indicating ineffectiveness in boosting microbial diversity.

Keywords : Plant Growth Promoting Microbes , Takakura Compost, Saga plant, EcoPlate,

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