

Seasonal Variation of Enzyme Activities of Forest Soil in Kwangneung

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The seasonal variation of dehydrogenase, acid phosphatase activity and adenosine tri-phosphate(ATP) content as measures of total microbial activity and biomass were investigated over a period of 1 year in coniferous and deciduous forest soil. Some of the more important soil factors, such as soil pH, moisture content and water holding capacity to verify whether there is a relationship between enzyme activity and the soil factors determined. The pH and moisture contents were ranged about 5.0-6.4 and 16.7-43.4%, respectively, showing commonly higher in surface than in lower soil and no remarkable variations with seasons and forest type. Water holding capacity showed similar trends with pH and moisture contents. Dehydrogenase, acid phosphatase activity and ATP contents were higher in surface than in lower soil as well as in spring and summer than in other seasons. It was assumed that metabolically depressed microorganisms during the winter were rapidly reactivated in spring. And correlation analysis, which was carried out in order to verify the relationship between enzyme activities and other determined factors, led to significant correlations between a number of factors.