

Comparative Analysis of Soil Enzyme Activities between Laurel-Leaved and *Cryptomeria japonica* Forests

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Abstract : Soil enzyme activities in Kasuga-yama Hill Primeval Forest (Nara, Japan) were examined to determine levels of mineralization and metabolism. Samples were selected from the soil surrounding laurel-leaved (B_{B-1}) and *Carpinus japonica* (B_{B-2} and P_w) trees for analysis. Cellulase, β -xylosidase, and protease activities were higher in B_{B-1} samples than those in B_{B-2} samples. These activity levels corresponded to the distribution of cellulose and hemicellulose in the soil horizons. Cellulase, β -xylosidase, and chymotrypsin activities were higher in soil from the P_w forest than in that from the B_{B-2} forest. The relationships between the soil enzymes calculated by Spearman's rank correlation indicate that the interactions between enzymes in B_{B-2} samples were more complex than those in P_w samples.

Keywords : comparative analysis, enzyme activities, forest soil, Spearman's rank correlation

Conference Title : ICAFB 2015 : International Conference on Agriculture, Forestry and Bioengineering

Conference Location : Singapore, Singapore

Conference Dates : January 08-09, 2015