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## 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<sub>B-1</sub>) and <em>C</em><em>arpinus</em><em> japonica</em> (B<sub>B-2</sub> and P<sub>w</sub>) trees for analysis. Cellulase, &beta;-xylosidase, and protease activities were higher in B<sub>B-1</sub> samples those in B<sub>B-2</sub>samples. These activity levels corresponded to the distribution of cellulose and hemicellulose in the soil horizons. Cellulase, &beta;-xylosidase, and chymotrypsin activities were higher in soil from the P<sub>w</sub> forest than in that from the B<sub>B-2</sub>forest. The relationships between the soil enzymes calculated by Spearman&rsquo;s rank correlation indicate that the interactions between enzymes in B<sub>B-2</sub> samples were more complex than those in P<sub>w</sub> samples.

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

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