

D-69: Comparative study of interception loss and nutrient status of monocultural plantation of *Pinus caribaea* and natural forest

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Some hydrological parameters (interception), litter decomposition and some soil characteristics were compared in a natural forest and a 24-year old *Pinus caribaea* plantation in Yagirala Forest Reserve in Aluthgama District of the wet zone of Sri Lanka, for a period of 5 months (June - October 1994). The hydrological observations were carried out from rainstorm to rainstorm.

Generally, a higher throughfall and a lower stemflow were recorded in the *Pinus* plantation compared with that of the natural forest. The litter interception was also higher in natural forest compared to that of the *Pinus* plantation. The total interception loss was higher in natural forest in relation to the *Pinus* plantation. The interception loss was inversely related to the amount of rainfall, as it was highest in July and lowest in August (the month with highest rainfall).

The rate of litter decomposition in *Pinus* was lower than that of natural forest. Total nitrogen, soil moisture content (in the top 30 cm), organic matter content, cation exchange capacity were significantly higher in natural forest, while available phosphorus, calcium, magnesium were significantly higher in *Pinus* plantation. Soil reaction did not show a significant difference between the vegetation types. These parameters varied significantly with soil depth.