

**EFFECT OF SHADING ON SURVIVAL AND GROWTH OF *Mesua*
(*CLUSIACEAE*) AND *Shorea* (*DIPTEOCARPACEAE*) SEEDLINGS
ACROSS TOPOGRAPHIC GRADIENT IN SINHARAJA RAIN
FOREST, SOUTHWEST SRI LANKA**

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The effect of shading on survival and growth of two species of *Mesua* (*Clusiaceae*) and four species of *Shorea* (*Dipteocarpaceae*) planted seedlings were investigated at different topographic positions in Sinharaja rain forest. All occur together as canopy dominant trees in Sinharaja rain forest. Twelve-understory sites were selected, four each on different topographic positions: valley, midslope and ridgetop. Measurements of height, number of leaves, root collar diameter and the mortality were recorded over a five-year period. Hemispherical canopy photographs were taken to calculate Indirect Site Factor (ISF), Direct Site Factor (DSF), and the Leaf Area Index (LAI). Analysis of photographs demonstrated that LAI decreased from valley to ridge top while DSF and ISF increased from the valley to ridge top. After five years thirty-four (34 %) seedlings died in the ridge top and the lowest mortality was recorded in the midslope. Seedlings of *Mesua ferrea* L. had the highest survival than other species in all understory conditions and the lowest survival rate recorded for *Shorea trapezifolia* (Thw.) Ashton. Results showed clear differences in survival and growth among species. These differences appeared related to availability of soil moisture and understory radiation regimes.