

**EFFECT OF LIGHT AND SOIL NUTRIENT ON SEEDLING
MORPHOLOGY OF *Syzygium* SPECIES OF A
LOWLAND RAIN FOREST IN SRI LANKA**

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Knowledge of how light and soil nutrient availability affect seedling morphology in relation to seedling growth is critical for understanding the regeneration establishment of seedlings beneath rain forest canopies. This study measured changes in seedling morphology of four related tree species in the family Myrtaceae in relation to differing combinations of light and soil nutrients. Species selected were canopy and sub canopy trees of rain forest in southwest Sri Lanka.

Shelters were constructed in the full open that created light treatments representing a range of photosynthetic Photon Flux Densities (PFD) and red : far red ratios found in the rain forest. Within each shelter seedlings were fertilised with phosphorous, potassium and magnesium nutrients. Newly germinated seedlings of each of four species (*S. firmum*, *S. makul*, *S. operculatum*, *S. rubicundum*) were grown for one and half years after which they were dug up and measured for, shoot length, root length, root collar diameter, leaf number, leaf area, and dry masses of roots, stems and leaves.

Shoot length and leaf area attained maxima in shelters simulating large forest openings (400m²). Root length, root collar diameter and dry masses gain were highest in full sun treatment. Compared with nutrient treatments phosphorus promoted greatest morphological measurements for all species. The results suggest that these species exhibit greater morphological responsiveness to increase in irradiance and to addition of phosphorous fertiliser.