

Title : Leaf cross-section anatomy of plants used for forest restoration

Author(s) : Thanwarat poonpun

Student ID : 640510237

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Advisor(s) : 1. Associate Professor Dr. Arunothai Jampeetong

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ABSTRACT

The leaf cross-section anatomy of eight plant species used for forest restoration. including *Gmelina arborea* Roxb., *Holoptelea intergrifolia* Roxb. Planch., *Artocarpus lacucha* Roxb. ex Buch.-Ham., *Choerospondias axillaris*, *Elaeocarpus lanceifolius* Roxb., *Azadirachta excelsa* (Jack) Jacobs, *Diospyros glandulosa* Lace, and *Cinnamomum iners* Reinw. ex Blume. was studied to apply as database for plant carbon storage research. The leaf samples of eight species were collected and cross-sectioned using a free-hand sectioning technique, and stained with 0.1% Safranin O. Then, leaf anatomy was examined under a compound microscope. Results showed that mesophyll thickness ranged from 0.06 to 0.23 mm, with *Elaeocarpus lanceifolius* had the highest thickness (0.23 ± 0.014 mm), while *Holoptelea intergrifolia* had the lowest thickness (0.06 ± 0.007 mm). The palisade: spongy ratio varied between 0.60-0.95, with *Elaeocarpus lanceifolius* showed the highest ratio (0.95 ± 0.120) and *Cinnamomum iners* showed the lowest ratio (0.60 ± 0.082).