

Nisara Jeensuksaeng 2012: Species Trials of 8 Species of Dipterocarpaceae at Thong Pha Phum Silvicultural Research Station, Kanchanaburi Province. Master of Science (Forest Resource and Environmental Administration), Major Field: Forest Resource and Environmental Administration, Faculty of Forestry. Thesis Advisor: Mr. Chongrak Wachrinrat, Ph.D. 78 pages.

Species Trials of 8 Species of Dipterocarpaceae were carried out at Thong Pha Phum Silvicultural Research Station, Thongphaphum district, Kanchanaburi province. The objectives of the study were to assess growth performances and biomass production of 8 Dipterocarpaceae species and to select suitable tree species for planting in this site by using Randomized Complete Block Design with 8 treatments, 4 blocks, 27 trees/plot and 2m x 4m spacing. The trial blocks were laid out on different slopes.

The results showed that the tree ages were 14 years, with an exception of Leaf Area Index (LAI), all parameters were found to be highly significant differences among tree species. Groups of high mean survival rate were *Dipterocarpus tuberculatus* and *Shorea siamensis*, 95.37% and 94.44% while *Dipterocarpus alatus* showed high value of mean diameter at breast height (DBH), total height (H), mean annual increment of DBH and mean annual increment of H with values of 19.09 cm, 17.60 m, 1.36 cm.yr⁻¹ and 1.26 m.yr⁻¹ respectively. Besides, groups of high total aboveground biomass and mean annual increment of total aboveground biomass were *D.alatus* and *D.tuberculatus* with values of 22.5044, 21.0545 ton. rai⁻¹ and 1.6075, 1.5040 ton. rai⁻¹.yr⁻¹. *Shorea obtusa* had the highest mean LAI with values of, 2.1233

Hence, the results of the study, it could be concluded that suitable tree species to be selected for planting in the site were *D.alatus* and *D.tuberculatus* due to their high values of growth and biomass production

Student's signature

Thesis Advisor's signature

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