

Peeracha Maneechart 2014: Species Trials of Fast Growing Trees at Trat Agroforestry Research and Training Station, Mueang District, Trat Province. Master of Science (Forest Resource and Environmental Administration), Major Field: Forest Resource and Environmental Administration, Faculty of Forestry. Thesis Advisor: Associate Professor San Kaitpraneet, Ph.D. 72 pages.

Species trial of fast growing tree species were carried out at Trat agroforestry research and training station, Mueang district, Trat province. The objectives of the study were to assess growth performances and biomass production of native fast growing tree species and to select suitable tree species for planting at the site by using Randomized Complete Block Design (RCBD) with four tree species, four replications, thirty six trees for each treatment and 2 m x 2 m spacing.

The results showed that survival and growth rate of 4 species were highly significant differences. Survival percentage of *Anthocephalus chinensis* Rich. Ex Walp, *Pterocymbium javanicum* R.Br. and *Artocarpus rididus* Blume. were 16.67%, 63.20% and 63.89%, respectively. Means of diameter at breast height (DBH) were 17.46, 9.80 and 9.46 cm., respectively. Mean of total height (H) of those were 16.22, 10.86 and 9.67 m., respectively. Means of annual increment of DBH of those were 2.18, 1.22 and 1.18 cm.yr⁻¹, respectively. Means of annual increment of height of those were 2.03, 1.36 and 1.21 m.yr⁻¹, respectively. For total above ground biomass of those were 8.25, 6.75 and 4.41 ton.rai⁻¹, respectively. Means of annual increment of total above ground biomass of those were 1.03, 0.85 and 0.55 ton.rai⁻¹.yr⁻¹, respectively. However, those native fast growing tree species had lower survival rate and growth rate than *Acacia mangium* Willd.

Hence, the results of the study, could conclude that suitable tree species for planting at the site was *Anthocephalus chinensis* because it showed better growth and biomass production than other native fast growing tree species. Higher survival percentage of *Anthocephalus chinensis* should be improved.

Student's signature

Thesis Advisor's signature