MORPHO-PHENOLOGY CHARACTERISTICS OF TREE AND EFFECT OF SHADING ON Neolamarckia cadamba (LARAN) SEEDLING IN SANDAKAN, SABAH

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ABSTRACT

Neolamarckia cadamba otherwise known as Laran is a forest species that have a rapid growth rate. This has lead *N. cadamba* to be recommended as tree plantation. The main objective of this research is to study the morphology and phenology *N. cadamba* in KTS Plantation, Sandakan, Sabah for 3 months. In addition, studies conducted to study the effects of shading on morphological and phenological characteristics of seedlings in the nursery *N. cadamba* KTS Plantation. In this study, there are three different treatments have been used to know the morphology and phenology changes on *N. cadamba* seedlings, which are 0% shading, 50% shading and 70% shading. Plot circle design used for the study of sapling *N. cadamba* in the High Production Corridor (HPC), while Random Complete Design used to study the effects of shading on sapling. The study of morphological and phenological characteristics of trees *N. cadamba* was carried out along the road in KTS Plantation. Flowering of *N. cadamba* occured in July, while fruiting happened from July until October. Morphological characteristics of seedlings, saplings and trees *N. cadamba* are not significantly different. For the study of effects of shading, seedling *N. cadamba* require high light intensity levels where growth is better in 0% shading compared to 50% and 70% shading. ANOVA analysis found that there is significant difference ($p < 0.05$) between shading used with the morphology and phenology characteristics of *N. cadamba* seedlings.