

STUDY ON THE EFFECT OF DIFFERENT MEDIA COMBINATION AND RATES OF AGROBLEN FERTILIZER ON THE INITIAL GROWTH OF *Eucalyptus pellita* AT NURSERY LEVEL

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ABSTRACT

Eucalyptus pellita is a fast growing species selected for planting on a commercial basis as an alternative source of wood supply. Growing media along with fertilizer rates used are the two factors that influence the growth of *E. pellita* at the nursery level. For that, it is important to choose the right media and fertilizer rates in order to produce good quality seedlings. The main objective of this study is to examine the growth performance and root development of *E. pellita* seedlings under different growing media and rates of fertilizer. This study was conducted in Acacia Forest Industries Berhad nursery for three months. In this study, there are three different media combinations which are, 100% cocopeat, 70% cocopeat + 30% top soil and 50% cocopeat + 50% top soil where each of this planting media will be added with different rates of agroblen fertilizer which amounts are 0 kg/m³, 8 kg/m³, 12 kg/m³ and 16 kg/m³. Experimental design used to conduct the study is Completely Randomized Design (CRD). Germination rate for all treatments are ranging from 46.9% to 62.5%, while survivality rate is up to 93.7%. Analysis of ANOVA found that there are significant difference ($p < 0.05$) between different media combination and fertilizer rates against the height and collar diameter of *E. pellita* seedlings. R12 (50% cocopeat + 50% top soil with 16 kg/m³ agroblen) gives the highest average height and collar diameter of 44.2 cm and 3.86 mm. Whereas for the root plug score and root shoot ratio is also the highest among the others with score of 4 and ratio of 1:3.4. Corellation analysis shown that there is a positive relationship between the shoot and root development. The cost needed per tray for R12 is RM 22.38. In the conclusion, the most ideal growth media combination for *E. pellita* seedlings at the nursery level in this study is 50% cocopeat + 50% top soil with 16 kg/m³ of agroblen fertilizer.