THE EFFECT OF GIVING FERTILIZER FROM COCOA FRUIT SKIN ON THE GROWTH OF COCOA SEEDLINGS (Theobroma cacao L.)

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ABSTRACT

Cocoa (Theobroma cacao L.) is one of the leading plantation commodities in Indonesia that plays an important role in increasing the country's foreign exchange earnings. However, the productivity of cocoa plants is currently constrained by the large number of old, damaged, and less productive plants. In addition, cocoa plants are also susceptible to pests and diseases, which have an impact on decreasing yields. One effort that can be made to overcome this problem is to utilize cocoa fruit skin waste as organic fertilizer, considering its rich content of essential nutrients for plant growth. This research was conducted from February to June 2024 at the Seed Technology Laboratory Nursery Land, Jember State Polytechnic. The main objective of this study was to examine the effect of cocoa fruit skin-based fertilizer on the growth of cocoa seedlings (Theobroma cacao L.) and to determine the optimal dose that gives the best results. The research method used a Non-Factorial Randomized Block Design (RAK) with four treatments and six replications. The treatments given included K0 (control, without fertilizer), K1 (250 grams/polybag), K2 (350 grams/polybag), and K3 (450 grams/polybag). The observation data were analyzed using the ANOVA test, and if there was a significant difference, the analysis was continued with the Least Significant Difference (LSD) test at the 5% level. The parameters observed included seedling height (cm), stem diameter (mm), number of leaves (strands), root wet weight (grams), and root dry weight (grams). The results showed that the application of organic fertilizer made from cocoa fruit skin had a significant effect on seedling height, stem diameter, and number of leaves. However, the administration of this fertilizer did not have a significant impact on the wet weight and dry weight of the roots. Of the four treatments tested, a dose of 350 grams/polybag (K2) produced the most optimal cocoa seedling growth.

Keywords : compost, cocoa pods, nursery