Effect of Various Liquid Organic Fertilizers and Planting Media on the Growth of Cocoa Seedlings (Theobroma cacao L.)

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ABSTRACT

Cocoa (Theobroma cacao L.) is one of the main plantation commodities in Indonesia which has an important role in improving welfare, especially for cocoa farmers with increasing market prospects in the international market. This study aims to determine the effect of various liquid organic fertilizers on the growth of cocoa seedlings, determine the effect of various planting media on the growth of cocoa seedlings, determine the interaction between various liquid organic fertilizers and planting media on the growth of cocoa seedlings. This research was designed using a factorial Randomized Group Design (RAK) method consisting of 2 factors. The first factor is liquid organic fertilizer consisting of P1 = urea fertilizer 2 g; P2 = PGPR 10%; P3 = amino acid 4%; P4 = PGPR (2.5% + amino acid 2.5%), while the second factor is planting media consisting of B1 = soil (top soil) + sand + sugar cane blotong fertilizer (2:1:1); B2 = soil (top soil) + sand + cow manure (2:1:1). The results showed that the application of 20 ml/l amino acid type Liquid Organic Fertilizer (POC) had a significant effect on stem diameter, while 20 ml/l PGPR type Liquid Organic Fertilizer (POC) had a significant effect on plant height and number of leaves. The mixing of PGPR and amino acids did not significantly affect the growth of cocoa plants as well as urea fertilizer. The planting media of sugar cane blotong 25 g/polybag and cow manure 25 g/polybag had a significant effect on the number of leaves, wet weight, and stem diameter.

***Keywords**: Cocoa, Urea, PGPR, Amino Acids, cow manure, blotong fertilizer*