Application of Coffee Peel Liquid Organic Fertilizer (*Coffea canephora*), in an Effort to Increase Edamame Soybean Crop Production (*Glycine max* L. Merril)

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ABSTRACT

Demand for edamame continues to increase, while edamame production is decreasing due to soil degradation as a result of excessive use of chemical fertilizers. Therefore, it is necessary to increase edamame through the application of liquid organic fertilizer. Coffee fruit peels have the potential as raw material for liquid organic fertilizer, which is abundant but underutilized. The research aims to analyze the application of coffee peel liquid organic fertilizer on edamame plants. This field research was conducted from August to November 2023 in Antirogo village, Jember City. The research used a Randomized Block Design (RBD) with two factors and three replications. The first factor was the concentration of the liquid fertilizer, consisting of three levels, namely 0%, 40%, and 50%. Meanwhile, the second factor was the dose of the liquid fertilizer which had three levels including 200 ml/plant, 300 ml/plant, and 400 ml/plant. The results showed that the 50% concentration gave the best results on the number of pods per sample (37.38 pods), the weight of pods per sample (49.92 g), and the weight of fresh pods per plot (1074.56 g). Similarly, the use of 40% coffee peel liquid fertilizer concentration gave the highest number of root nodules (11.96 nodules). Coffee husk organic fertilizer seemed to increase the intake of macronutrients such as N, P and K. Even though it was in relatively small levels, it provided significant results in increasing the growth and yield of edamame plants.

Keywords: Edamame, Concentration, Dosage, Coffee Husk Liquid Organic Fertilizer