The Role of Vermicompost and Liquid Organic Fertilizer (LOF) from Sugarcane Bagasse on Soybean Plant Yield (Glycine max L.)

Supervised by Andarula Galushasti S.ST., M.Tr.P.

Mita Ayu Septyana
Study Program of Food Crop Production Technology
Department of Agricultural Production

ABSTRACT

Soybean (Glycine max (L.) is a secondary crop or annual crop and is an important food source of protein in Indonesia. One effective way to increase soybean productivity is by providing vermicompost and liquid organic fertilizer sugarcane bagasse. This research aims to test the effect of administering vermicompost and sugarcane bagasse liquid organic fertilizer on the growth and yield of soybean plants. This experiment August 2024 to November 2024 on the agricultural land of Politeknik Negeri Jember. This study uses a Randomized block design factorial two treatment factors, the first factor is vermicompost K0: 0 ton/ha, K1: 8,5 ton/ha, K2: 15 ton/ha with the second factor is sugarcane bagasse liquid organic fertilizer T0: 0 ml/l, T1: 350 ml/l, T2: 700 ml/l. Obsevation data were analyzed using ANOVA and further tasted using DMRT with a level of 5% or 1%. The observed parameters are plant height, biomass weight, wet pod weight, dry pod weight, dry seed weight, weight of 100 seeds, root nodules, and pod count. Form the result of vermicompost research showed The results showed that vermicomposting had an effect on plant height, biomass weight, 100 seed weight, and number of pods. Liquid organic fertilizer sugarcane bagasse has an influence on plant height, and the number of pods. The interaction affected plant height, biomass weight, and the weight of 100 seeds. There is no effect on the variables of fresh pod weight, dry pod weight, dry seed weight, and root nodules.

Keywords**:** *soybeans, vermicompost, and sugarcane bagasse*