

**GROWT AND YIELD OF TOMATO PLANTS (*Lycopersicum esculentum* Mill.)  
WITH RELATED OF LIQUID ORGANIC FERTILIZER AND FREQUENCY  
OF PROVIDING PHOTOSYNTHETIC BACTERIA**

By: Risqan Nabawi Zulhatta  
Supervised by: Endah Budi Irawati

**ABSTRACT**

Tomatoes are one of the most important food commodities in the society, and consumption is increasing year after year. The goal of this study was to see how different concentrations of Liquid Organic Fertilizer (LOF) and frequency of application of Photosynthetic Bacteria (PSB) affected tomato yields. The factorial research approach (3 x 3)+ 1 control, along with a Complete Randomized Block Design (RAKL). The first component was the LOF concentration, which varied 3 mL/L, 6 mL/L, and 9 mL/L. The second component was the frequency of PSB administration, which was every 5 days, every 10 days, and every 15 days. Data were examined using the orthogonal contrast test and variance at the 5% level, followed by the (DMRT) at the 5% level. The results showed that the treatment and gave the best results for all parameters than control. The treatment combinations interacted with the parameters of plant height 28 DAP, stem diameter 28 DAP, flowering age, number of fruits per nodule, number of fruits per plant and weight per nodule. The 6 mL/L LOF concentration gave the best results for all parameters except plant height 14 DAP, crown/root ratio aged 10, 20 and 30 DAP, leaf are index (LAI) aged 10 DAP and net assimilation rate (NAR). Treatment of PSB with a frequency of application once every 5 days gave the best results on all parameters except plant height at age 14, crown/root ratio at age 10, 20 and 40 DAP, LAI age 10 DAP and NAR age 20 DAP.

**Key word** : Tomato, Liquid Organic Fertilizer and Photosynthetic Bacteria.