

**THE APPLICATION OF EGGSHELL POWDER DOSE AND BANANA
PEEL WASTE LIQUID ORGANIC FERTILIZER CONCENTRATION ON
THE GROWTH AND YIELD OF TOMATO (*Solanum Lycopersicum* L.)**

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ABSTRACT

The cultivation of tomato plants must be optimized to meet consumer demand and market competition. One innovation in tomato cultivation involves the application of eggshell powder doses and concentrations of liquid organic fertilizer (LOF) derived from banana peel waste. This study employed a factorial Completely Randomized Block Design (CRBD) with three replications. The first factor was the application of eggshell powder at 25, 45, and 65 g/plant. The second factor was the concentration of LOF from banana peel waste at 400, 500, and 600 ml/l. Data were analyzed using Analysis of Variance (ANOVA) at a 5% significance level, followed by Duncan's Multiple Range Test (DMRT) at 5%. Differences between treatments and the control were further tested using Orthogonal Contrast. No interaction was observed between the two factors across all observed parameters. The application of 65 grams of eggshell powder per plant produced the best results for tomato plant growth and yield, particularly in plant height at 56 days after transplanting (DAT), number of fruits per plant, and fruit weight per plant. The application of banana peel LOF at a concentration of 600 ml/l resulted in the best outcomes for growth and yield parameters, including plant height at 42 and 56 DAT, stem diameter at 56 DAT, number of fruit clusters per plant, number of fruits per plant, number of fruits per cluster, fruit weight per plant, fruit weight per plot, and fruit weight per hectare.

Keywords: *tomato, eggshell powder, banana peel liquid organic fertilizer*