

**THE EFFECT OF USING NPK FERTILIZER AND ADDITION OF
VARIOUS AMELIORANT MATERIALS ON THE GROWTH AND
YIELD OF TOMATO PLANTS (*Lycopersicum esculentum* Mill.)**

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ABSTRACT

Tomato plants (*Lycopersicum esculentum* Mill.) are a type of vegetable plant that belongs to the Solanaceae family. One way that can be done to increase the productivity of tomato plants is to use NPK fertilizers and ameliorants. The research was conducted at Caping Merapi, Yogyakarta. The purpose of this study was to determine the growth and yield of tomato plants by applying several kinds of ameliorants. The research method used is a Complete Randomized Group Design (RAKL) with 2 factors and control with 3 replications. The first factor is the dose of NPK fertilizer, namely, 300 kg/ha, 375 kg/ha, 450 kg/ha. The second factor is 3 kinds of ameliorant materials, namely 20 tons/ha of cow dung, 20 tons/ha of goat dung, and 20 tons/ha of chicken manure. The control factor is a treatment without the addition of ameliorants and using NPK Mutiara 16:16:16 fertilizer at a dose of 250 kg/ha. Data analysis used analysis of variance (ANOVA) at the 5% level followed by DMRT test and orthogonal contrast test. The results showed that there were differences between the control treatment and the treatment combination on the parameters of plant height at 14 HST, 21 HST, 28 HST, stem diameter 21 HST, 28 HST, fruit diameter, number of fruits per plant, fruit weight and ton yield per hectare. The best treatment combination is the dose of 375 kg/ha NPK fertilizer with cow dung ameliorant.

Key word : Tomato, NPK Fertilizers, Ameliorants