

# **THE GROWTH AND PRODUCTION RESPONSE OF HYBRID TOMATO (*Solanum lycopersicum*) ON GIVING POTASSIUM AND VARIOUS ORGANIC FERTILIZER**

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## **ABSTRACT**

Tomato plants Marta F1 (*Solanum lycopersicum*) are one of the hybrid tomato varieties produced in 2012 by PT. East West Seed. Tomatoes have a sweet taste and have a lot of health benefits. The purpose of this study was to determine the type of organic fertilizer and potassium fertilizer that are best for the growth and production of tomato plants, to determine the interaction of types organic fertilizer with potassium fertilizer dosage on the growth and production of tomato plants. This research is a field experiment using factorial Complete Randomized Design (CDR) with two-factors pattern. The first factors is the dosage of potassium fertilizer in the form of KCl consisting of three levels, there are; F<sub>0</sub>: Potassium 0 g/polybag, F<sub>1</sub>: Potassium 5 g/polybag, F<sub>2</sub>: Potassium 10 g/polybag. And the second factor is the type of organic fertilizer which consists of three levels, there are; P<sub>1</sub>: compost 150 g/polybag, P<sub>2</sub>: cow manure 150 g/polybag, P<sub>3</sub>: vermicompost + cow manure 150 g/polybag. Based on the results, analysis of the results, discussion, and limitations of this researchers in carrying out this research can be summarized as follows: The vermicompost organic fertilizer is the best type of organic fertilizer on the growth response and production of tomato Marta F1 (*Solanum lycopersicum*), especially on plant height parameters at the age of 21 days after planting. Other than 0 gram/polybag and 10 gram/polybag KCl is the best dosage of potassium fertilizer on the response and production of Marta F1 tomato plant (*Solanum lycopersicum*) especially when tomato plants reach 21 days after planting. Besides that K gram 0 gram/polybag and 5 gram / polybag is the best dosage of potassium fertilizer on the response and production of Marta tomato F1 (*Solanum lycopersicum*) plants when tomato plants reach 28 days after planting. There is a real interaction between the combination treatment of types of organic fertilizer with potassium fertilizer dosage on plant dry weight, fruit weight per plant, and count of fruits.

Key words: tomato Marta F1, organic fertilizer, Potash Fertilizer