

GROWTH RESPONSE AND YIELD OF TOMATO (*Solanum lycopersicum* L.) AT VARIOUS TYPES OF ANIMAL MANURE FERTILIZERS AND BIOLOGICAL AGENTS

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ABSTRACT

Tomato cultivation with chemical fertilizers without organic fertilizers can reduce land productivity. Excessive chemical fertilization has a negative impact in the form of soil pollution, so it is necessary to do balanced fertilization with organic fertilizers to increase land productivity and plant productivity. The research aims to determine the effect of various type animal manure fertilizer and biological agent to increase the growth and yield of tomato plants. The research method was Factorial (3 x 3) + 1 control which was arranged in a RCBD. The first factor is the type of animal manure fertilizer, namely cow, goat, and chicken, each given 20 tons/ha. The second factor is the type of biological agent, namely *Trichoderma* sp., Mycorrhiza, and PGPR, each given 20 g/plant. The analysis used Variance Test at 5% level and DMRT further test at 5% level. Orthogonal Contrast Test was conducted to compare the treatments with the control. There was an interaction between the treatment combination of chicken manure fertilizer type with the type of Mycorrhiza biological agent. The type of chicken manure fertilizer gave better results in the parameters of the number of leaves 21 DAP, 28 DAP, and 35 DAP; age of flowering and age of harvest; the number of fruits per bunch and per plant; the weight of fruit per fruit and per bunch. Mycorrhiza biological agent type gave better results in the parameters of plant height; stem diameter; number of leaves; age of flowering and age of harvest; the number of fruits per bunch and per plant; the weight of fruit per fruit and per bunch.

Keywords : Tomato plants, animal manure, biological agents