ABSTRACT

HAVEEL LUTHFYRAKHMAN. DOSAGE OPTIMIZATION OF FERTILIZER AND CHICKEN MANURE IN HYBRID TOMATO CULTIVATION. (Supervised by ANAS DINURROHMAN SUSILA)

The objective of this research was to know the effect of fertilizer and manure growth and productivity of hybrid tomato (Lycopersicon esculentum Mill).

This research obtained at Pasir Sarongge Experimental Field University Farm Bogor Agricultural University, Cipanas, from February to July 2011. The experimental design used was Completely Randomized Block Design, with two factors and three repetitions. First factor was manure dosages which were 0, 10, 20, and 30 ton ha⁻¹. Second factor was fertilizer dosages which were 0%, 75%, and 150% of recommended dosage. Recommended dosage use was 100 kg ha⁻¹ N, 100 kg ha⁻¹ P₂O₅, and 50 kg ha⁻¹ K₂O, recommendation from Ministry of Agriculture (2002).

Plant height showed quadratic response to manure at 2 and 4 week after transplanted (WAT), then linear at 6 WAT. As to fertilizer, plant height showed no response at 2 WAT yet showed linear response at 4 and 6 WAT. Interaction between manure and fertilizer happened at 8 WAT. Manure gave linear response to number of leaves at 2, 4, and 8 WAT but not significant at 6 WAT. Fertilizer gave no significant response at number of leaves.

Manure gave quadratic response as fertilizer gave linear response to fruit weight per plot, fruit weight per hectare estimation, and relative yield. Optimal manure dosage given from this research was 24.375 ton ha⁻¹. Maximum fruit weight per plot was 17.41 kg per plot. Maximum fruit weight per hectare estimation was 22.79 ton ha⁻¹. Manure gave linear response to fruit weight per plot of grade A and B. Fruit weight per plot of grade C, fruit diameter, and average fruit weight was not affected by manure or fertilizer given.