

TECHNICAL MEASURES FOR QUALITY IMPROVEMENT AND DETERMINATION OF SUITABLE AMOUNT OF EARTHWORMS COMPOST FOR TOMATO PLANT ON THE RED RIVER FLUVIOLS

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Summary

The study was carried out to practice technical measures to improve quality of earthworms compost and determine suitable amount of this fertilizer for tomato on Red river Fluvisols. The EM bioproduct was used together with earthworms compost in composting process at the rate of 1.5 liter per 1 ton. After composting process, the earthworms compost was used to apply for tomato at different levels (0, 5, 10 and 15 tons per hectare) in combination with 160 kg N, 100 kg P₂O₅, 135 kg K₂O/ha. The study results show that, after 30 days of composting process, in earthworms compost, the amounts of total N, effective phosphorus and potassium are 2.10%, 0.70% and 0.83%, respectively. The C/N ratio is 10.9 and the numbers of *Salmonella*, *E. coli* are lower than the standard of Vietnamese Government. At all the plots with different amounts of earthworms compost application, the high of tomato plant is increased with the increase of amount of earthworms compost. Based on the same background of mineral fertilizers, application of 10 tons of earthworms compost helps to reach 35.42 tons of tomato per hectare, high fertilizer efficiency (1.1 kg of tomato fruit per 1 kg of earthworms compost), net income (74.215 million VN dong per hectare) and VCR_{pb} value (2.21) are higher than those of other levels application.

Keywords: *Perionyx excavatus* – Earthworms, compost, tomato plant, Red river fluvisols.