

***Effectiveness of EM4 Applications to Increase Growth and
Production of Ratoon Rice***

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ABSTRACT

Ratoon rice is a cultivation system that veterinary shoots after stem cutting. The ratoon system has several advantages, including a faster harvest time and lower production costs. A faster harvest can increase the rice production index 4-5 times a year. However, ratoon rice still has disadvantages, one of them is low yields. Therefore it is necessary to make efforts to increase the yield of ratoon rice. In this study, biodegradator was used to accelerate the decomposition of straw. The was expected that decomposed straw can be used by plants as a source of nutrients and improve the soil. This research utilizes EM4 biodegradator which was applied with different times and concentrations. The research was conducted in the field of State Polytechnic of Jember. The experimental design was arranged in split plot. The application time (main plot) consisted of 3 levels, namely every day, every two days, and every three days starting after stem cutting until six days after stem cutting. While the concentrations (sub plots) consisted of 10 ml.l⁻¹, 15 ml.l⁻¹, and 20 ml.l⁻¹. The results showed that the application of 20 ml.l⁻¹ EM4 every 3 days showed the best treatment on plant height (64,93 cm), number of tillers (35,33), and number of leaves (99). The concentration of EM4 gave a significant effect on plant height, hight significant effect on the number of tillers and number of leaves, but not significantly different on other variables. The times application of EM4 showed not significantly effect on all observation variables.

Keywords: *ratoon rice, biodegradator, EM4*