The Effect of Trichoderma Application and Method on the Quality of Cocoa Seedlings (*Theobroma Cacao* L.) Varieties ICCRI 08 H. *The Effect of Trichoderma Application and Method on the Quality of Cocoa Seedlings (Theobroma cacao L.) Varieties ICCRI 08 H.* Supervisor : Eva Rosdiana S.P, M.P. *and* Bayu Setyawan S.P, M.Sc.

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ABSTRACT

Good cocoa breeding techniques are one of the important aspects in cocoa cultivation, with the aim of being able to produce good and quality ready-to-plant seeds that can later produce optimally. One of the biological agents that can be used is Trichoderma sp. The purpose of this research is the effectiveness of fungicides on the quality of cocoa seedlings (Theobroma cacao L.) variety ICCRI 08 H. This research was conducted in December 2021 to March 2022 located in nurseries, Kaliwining gardens, Indonesian Coffee and Cocoa Research Institute, Rambipuji, Jember, East Java. The experimental design used was a Factorial Randomized Complete Block Design (RCBD) with 2 factors and 3 replication. The first factor is the treatment of biological agents and fungicides consisting of 2 levels, namely F1 (Trichoderma sp), F2 (Benomil Fungicide). The second factor is the method of application which consists of 4 levels, namely A0 (Seeds are only sprayed every month not soaked), A1 (Seeds are soaked 1 day and sprayed once every 1 month), A2 (Seeds are soaked 4 days and sprayed once every 1 month), and A3 (Seeds are soaked 4 days without being sprayed). The data were analyzed using the ANOVA test and continued with the Tukey 5%. The results of this research is the treatment of fungicides differed very significant on the parameters of root length (19.07 cm). The treatment of the method of application differed very significant on the parameters of the speed of growing (0,93%), the height of the plant (33.86 cm), and the number of leaves (12.90 strands). The interaction between the two treatments gave very significant different results on the stem diameter parameter (0.74 mm)

***Keywords** : biological agency, cocoa, fungicides, method of application, seedling quality, trichoderm*