Effect of Trichoderma harzianum and Matrix Type on Matriconditioning Plus on the Quality and Vegetative Growth of Outdated Soybean (Glycine max L. Merril*) Seeds.* Advisor: Putri Santika S.ST, M. Sc

Fammi Sella Arinda Putri
Study Program of Seed Production Technique
Department of Agricultural Production
Program Studi Teknik Produksi Benih
Jurusan Produksi Pertanian

ABSTRACT

Soybean is a very important legume crop in Indonesia. The decline in soybean productivity is due to the lack of availability of quality soybean seeds due to the nature of soybean seeds which quickly experience deterioration (seed decline). This study aims to determine the effect of the type of matrix and Trichoderma harzianum and the interaction of the two factors on the quality and vegetatif *growth of expired soybean seeds. The location of this research is in the green house and land of the Jember State Polytechnic, Kec. Sumbersari, Jember. This research used Factorial Complete Randomized Design (FCRD) and Factorial Randomized Block Design (FRBD). This study consisted of 2 factors which were repeated 4 times. The first factor is the type of matrix (M) consisting of husk charcoal (M1), sawdust (M2), and vermiculite (M3). The second factor is Trichoderma harzianum which consists of without giving Trichoderma harzianum (T0) and giving Trichoderma harzianum (T1). The spacing used is 40x15 cm. The data analysis used was the ANOVA test and continued with the BNT test with a level of 5%. The results showed that the sawdust matrix (M2) treatment gave the best germination rate of 66.6%, growth rate of 17.5%, mean germination time of 4,0 days, rod diameter 1.72 mm, and number of leaves at 14 DAP of 5.35 leaves. . Treatment of Trichoderma harzianum (T1) gave the best results on seed germination of 65.40% and growth rate of 17.3%. The interaction between matrix types (M1) and without the addition of Trichoderma harzianum (T0) gave the best results on the parameter of plant height at 21 DAP of 17.70 cm and 28 DAP of 20.62 cm. In the parameter the number of leaves at 21 HST was 14.65 leaves and at 28 HST 17.82 leaves.*

Keywords: Deterioration, Matrix, Soybean, Trichoderma harzianum