ABSTRACT

Soybean *(Glycine max* L.) is one of the important food crops in Indonesia as a source of affordable vegetable protein, but national production has not been able to meet domestic needs so that import dependence is still high. This study aims to determine the effect of several soybean genotypes, *eco enzyme* concentration, and the interaction of both on the growth and yield of soybean plants. This study used a factorial Randomized Block Design (RBD) with two factors, the first factor is the soybean genotype Grobogan (G1), Deja-1 (G2), line M.5.2.1 (G3), and line M.1.1.3 (G4). The second factor is the concentration of *eco enzyme* E0 (0 ml/L), E1 (30 ml/L), E2 (60 ml/L), with 3 replications to obtain 36 experimental units and 576 total plants. The results showed that genotype significantly however, it significantly affected plant height at 2, 6, and 8 WAP, stem diameter at 2 WAP, leaf chlorophyll content, number of productive branches, flowering age, harvest age, number of filled pods, number of empty pods, dry seed weight per plant, and weight of 100 dry seeds. The genotype with the highest production was of the M.1.1.3 line. The *eco enzyme* factor only significantly affected flowering age, with a concentration of, of 0 ml/L. The interaction between genotype and *eco enzyme* only significantly affected plant height at 2 WAP, with the best combination being the M.5.2.1 line + *eco enzyme* 30 ml/L.

Keywords: Fermentatoin, M.1.1.3, M.5.2.1, Production