Effect of Manure and Gibberellin Hormone Treatment on Productivity and Quality of Soybean Seeds (Glycine max (L.) Merrill) Dena 1 Variety. *Supervisor* by Dr. Ir. Nurul Sjamsijah, M.P.

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ABSTRACT

Soybeans are one of the legume crops that have the highest vegetable protein content compared to other legumes. The need for soybeans is increasing from year to year in line with the increasing population and increasing public awareness of plant protein foods. Domestic production is still unable to meet all domestic needs in a year, so to meet these needs every year Indonesia seeks to increase soybean production. One of the efforts to increase soybean seed production is by applying the right manure and gibberellin hormone. This study aims to determine the effect of applying manure and gibberellin hormone on soybean seed production. The research was conducted in the antirogo land of Sumbersari sub-district, Jember Regency, East Java from September to December 2023. This study used a factorial Randomized Block Design (RBD) method with three replications. The data were analyzed using ANOVA and continued with DMRT test at 5%. The first factor is the application of cow manure with K1 (3ton), K2 (5ton), K3 (7ton). The second factor is the application of gibberellin hormone with doses of G1 (50 ppm), G2 (100 ppm), G3 (150 ppm). The results showed that the interaction of manure and gibberellin hormone gave a very significantly different effect on plant height (47.27 cm), number of pods per plant (82.77 pods), and number of seeds per plant (163.10 grains), and gave a significantly different effect on seed weight per plant (30.18 grams), 100 grain weight (13.98 grams), and seed production per hectare (1973.13 kg/ha). The interaction between the dose of manure of 7 tons/ha and the application of gibberellin hormone with a concentration of 150 ppm (K3G3) gave the best results.

Key Words : Soybeans, Organic Fertilizer, Hormone