

## ABSTRACT

Deni Saputra. 24020120120034. **Application of Soil Improver in Sand Soil on Vegetative Growth of Mung Beans (*Vigna radiata* L. var. Vima 4) during Different Drought Stress Conditions.** Laboratory of Plant Structure and Function Biology. Department of Biology, Faculty of Science and Mathematics, Diponegoro University, Semarang, (under the guidance of Sri Widodo Agung Suedy and Endang Saptiningsih)

Sand soil is a type of soil that has low productivity, especially in drought conditions. The productivity of sandy soil can be increased by applying soil improvers, namely compost and humic acid. Mung bean is a drought-resistant crop and its production in Indonesia has decreased. This study aims to assess the effect of compost and humic acid application on sand soil on the vegetative growth response of mung bean plants during drought conditions. The research design used was a two-factor completely randomized design, namely the application of soil improvers (sand soil (control); sand soil and compost; sand soil and humic acid and drought stress (80% KL and 50% KL) with 5 replications. The parameters observed were soil water content, root length, percentage increase in plant height, percentage increase in leaf area, percentage increase in root dry weight, percentage increase in stem dry weight, and percentage increase in leaf dry weight. Data were analyzed by Two-way ANOVA and followed by LSD test at 5% significance. The results showed that the interaction of compost application and drought stress showed lower results than the control in all research parameters except soil water content. Meanwhile, the interaction of humic acid application and drought stress showed higher results in all research parameters except the percentage increase in leaf area.

*Keywords: Sand soil, Drought stress, Soil improver, Mung beans.*