

ABSTRACT

Alifah Salmaa Sholikhah. 24020120130104. **Reproductive Growth Response and Yield of Mung Bean (*Vigna radiata* L.) Variety Vima 4 to The Addition of Soil Amendments and Mycorrhizal Inoculation in Sandy Soil Under Drought Stress.** Under the guidance of Endang Saptiningsih and Nintya Setiari.

Sandy soil has low nutrient content and low water holding capacity, especially during dry season. Prolonged drought affects the groundwater availability, impacting the growth and production of mung bean plants (*Vigna radiata* L.). Increasing the productivity of sandy soil and mung bean plants can be achieved through adding soil amendments and mycorrhizal inoculation. The aim of this research was to examine the effects of adding soil amendments such as compost and humic acid, and mycorrhizal inoculation on reproductive growth of mung bean that under drought stress. The experimental study was conducted using a completely randomized design (CRD) with two factors, the addition of soil amendment and mycorrhizal inoculation. Mung beans were planted in various media mixtures such as sandy soil without mycorrhiza, sandy soil with mycorrhiza inoculation, sandy soil-compost without mycorrhiza, sandy soil-compost with mycorrhiza inoculation, sandy soil-humic acid without mycorrhiza, and sandy soil-humic acid with mycorrhiza inoculation. The mung beans were subjected to drought stress at 50% field capacity from the late vegetative phase until harvest phase. Data analysis was performed using a two-way ANOVA and LSD test at a 5% significance level. Variable data was taken in the early reproductive phase (35 DAP) in the form of soil water content, soil structure, percentage of mycorrhizal infection, root length, number of nodules, leaf area and plant height. The results showed that the addition of soil amendments increased soil moisture content and improved soil structure. The interaction of adding humic acid and mycorrhizal inoculation showed the most optimal results, indicated by an increase in mycorrhizal infection percentage (15,38%), number of root nodules (188,33%), leaf area (7,14%), and plant height (13,87%) compared to sand without soil amendments and mycorrhizal inoculation.

Keywords: compost, humic acid, mycorrhiza, drought stress