THE EFFECT OF ORGANIC FERTILIZER DOSAGE AND SOIL SALINITY LEVEL ON THE GROWTH AND YIELD OF BLACK SOYBEAN (*Glycine soja* L.) DETAM 1 VARIETY

Tika Ratnasari[1], Maman Suryaman[2], Ida Hodiyah[2]
[1]Graduate Student of Agrotechnology, Siliwangi University
[2]Supervisor of Graduate Student of Agrotechnology, Siliwangi University

ABSTRACT

Soybean (Glycine max (L.) Merril) is a food commodity with high vegetable protein content and has been used as a raw material for processed products such as soy milk, tempeh, tofu, soy sauce, and various other snacks. The black soybean plant belongs to the Leguminosae family, Papilonideae subfamily. Black soybeans originate from China, then are developed in various countries in Latin America, as well as the United States and countries in Asia. In Indonesia, black soybean cultivation is centered in Java, Lampung, West Nusa Tenggara and Bali. (Nurhadi, 2019). The purpose of this study was to obtain the best dosage of organic fertilizer and soil salinity on the growth and yield of black soybean (Glycine soja L.) Detam 1 variety. This research was conducted in Budiasih Hamlet, Cibenda Village, Parigi District, Pangandaran Regency, the research was conducted in October 2022 to January 2023. Cibenda Village is located in the eastern part of Parigi District, with an altitude between 1-10 meters above sea level. The acidity level (pH) of the soil in Cibenda Village varies from slightly sour (4.5) to neutral (7). Based on the climate classification according to Schmidt-Ferguson, the climate in Cibenda Village is a type A climate (Very Wet). The experimental design used was a factorial randomized block design (RBD) with 2 factors, namely factor 1 dose of organic fertilizer (A) and factor 2 seawater concentration (B), which consisted of 3 treatments, factor 1 namely (a0) control/without organic

fertilizer, (a1) dose of organic fertilizer 10 tonnes/ha, and (a2) dose of organic fertilizer 20 tonnes/ha, then 3 treatments for factor 2 namely (b0) control/without sea water/using well water, (b1) seawater concentration of 100 ml/L of water, and (b2) seawater concentration of 200 ml/L of water. Thus, this study was conducted with each treatment repeated three times. The results of the statistical analysis showed that there was an 1) There is an interaction between the level of soil salinity and the dose of organic fertilizer on the number of seeds per pod. 2) An organic fertilizer dose of 20 tons/ha produces the highest dry seed weight per plant compared to the control treatment/no organic fertilizer and an organic fertilizer dose of 10 tons/ha. 3) An organic fertilizer dose of 10 tons/ha produces the highest weight of 100 dry seeds compared to the control treatment/no organic fertilizer and an organic fertilizer dose of 20 tons/ha. 4) The salinity level has a very significant effect on root volume, dry seed weight per plant and the weight of 100 dry seeds. The organic fertilizer dose treatment had a significant effect on plant height, leaf area and dry seed weight per plant, while the organic fertilizer dose treatment had a very significant effect on the number of leaves.

Keywords: Organic Fertilizer, Salinity, Black Soybean