

The Effect of Planting Spacing and Dolomite Dosage on Growth and Production of Soybean Plants (Glycine max L. Merrill)
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ABSTRACT

The decreasing of soybean production is caused by reducing of harvest area and decreasing soil fertility. The effort to solve these problems is by increasing the plants population through close spacing. However the increase in plant population causes high competition between plants. The soil acidity it's also a limiting factor for growth and productivity. It's necessary to add dolomite to neutralize soil pH and add Mg and Ca nutrients that are useful for plants. This research aims to identify the effect of using close spacing and various doses of dolomite on the growth and productivity of soybean plants. This research was carried out for 4 months starting from February to May 2021 on the field of the Jember State Polytechnic. The experimental was arranged in a randomized block design consisting two factors such as close spacing and dolomite and was repeated three times. Spacing consisted of four levels, namely 40cm x 40cm, 30cm x 15cm, 30cm x 10cm, and 25cm x 25cm. While the dolomite dose consisted of four levels, namely: 0 ton ha⁻¹, 2 tons ha⁻¹, 2,5 tons ha⁻¹, and 3 tons ha⁻¹. The collecting data were analyzed by ANOVA and further tested for DMRT at 5% level. Spacing of 40cm x 40cm and 0 ton ha⁻¹ gave the best effect on the number of branches as much as 3,41 pieces and the number of pods reached 91,19 pieces. It is suspected that the use of optimal spacing will provide good growth space and adequate nutrient availability due to less competition between plants.

Keywords: *Dolomite, Plant spacing, Soybean*