

**GROWTH RESPONSE OF GREEN BEAN (*Vigna radiata* L.) CROPS ON
THE APPLICATION BIOCHAR IN DIFFERENT SOIL
C-ORGANIC CONDITIONS**

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ABSTRACT

Decreasing green bean production, one of the factors is soil fertility which is less than optimal, soil fertility is also something that farmers need to pay attention to in cultivating efforts to increase green bean production, namely the need for organic matter that can restore soil properties, one of which is biochar as a soil repairer and material as well as using organic goat manure. This study was conducted with the aim of analyzing the effect of biochar enriched with the best cow urine on the growth and yield of green bean plants under different soil C-Organic conditions. This research is located at JL. Kaliurang, Karangrejo village, Sumpersari District, Jember Regency in January - March 2023 using the Split Plot Randomized Design Group (RAK) method which consists of two factors, with the first factor being organic matter (BO) with levels of 0%, 3%, 4% and the second factor is biochar at a dose of 5 tonnes/ha, 10 tonnes/ha, 15 tonnes ha, 20 tonnes ha-1. The observation variables used were plant height, number of leaves, leaf diameter, leaf width, leaf length. Data analysis used ANOVA if there was an effect in the treatment, then a further test was carried out using the DMRT test with an error rate of 5% if the treatment showed a significant difference, and 1% if the treatment showed a very significant difference. The results showed that the application of biochar at a dose of 20 tons ha statistically gave the best effect on plant height 42 HST of 49.38 cm, besides that there was a significant interaction between organic matter and biochar dosage on the leaf length parameter with the highest average of 14.01 cm. In general, both the addition of 3% organic matter and the application of biochar at doses of 15 tonnes/ha-1 and 20 tonnes/ha were the highest in all parameters.

Keywords : *biochar, goat manure, green beans, organic matter*