

The Effect of Blotong Growing Media and Amino Acid Application on the Growth of Sugarcane Seedlings (*Saccharum officinarum* L.) Variety Bululawang Using the Bud Chip Method.

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ABSTRACT

*Sugarcane (*Saccharum officinarum* L.) is a cash crop that plays a vital role as a raw material for the sugar industry. The availability of high-quality seedlings is a key factor in improving the success of sugarcane cultivation. The use of the bud chip method can increase the efficiency of planting material utilization, while the application of blotong and amino acids is expected to support the growth of sugarcane seedlings. This study aimed to determine the effects of planting media containing blotong fertilizer, amino acid application, and the interaction between the two on the growth of Bululawang variety sugarcane seedlings using the bud chip method. The study was conducted from October 2025 to January 2026 at the Field Laboratory of the Jember State Polytechnic using a Factorial Randomized Block Design (FRBD). The first factor was M0, consisting of soil + sand + manure (1:1:1); M1, consisting of soil + sand + blotong fertilizer (1:1:1); and M2, consisting of soil + sand + blotong (2:1:1). The second factor consists of amino acid concentration: P0 (0%), P1 (2%), and P2 (3%). The observed parameters included plant height, stem diameter, number of leaves, number of tillers, and root volume. The results showed that the Blotong-based growing medium affected plant height and the number of leaves, with the best results observed in the M2 treatment (Soil + Sand + Blotong) at a 2:1:1 ratio. The application of amino acids affected plant height, the number of leaves, the number of tillers, and root volume, with the best results observed in the P2 treatment at a 3% concentration. The interaction between the blotong growing medium and amino acids had a significant effect only on plant length.*

Keywords: *amino acids, blotong, bud chips*