

**THE EFFECT OF FILTER CAKE FERTILIZER AND LEMURU FISH
AMINO ACIDS APPLICATION ON THE GROWTH OF SUGARCANE
SEEDLINGS (*Saccharum officinarum* L.) VARIETY MOJO 01
USING THE BUDSET METHOD**

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ABSTRACT

Sugarcane (*Saccharum officinarum* L.) is an important crop in Indonesia because it serves as the main raw material for the sugar industry. The germination phase is an important stage in the growth cycle of sugarcane. One of the most widely used propagation techniques is the *budset* method. One factor affecting seedling production is the growing medium. The use of growing media is also needed to reduce the use of chemical fertilizers by utilizing sugarcane bagasse waste. In addition, lemuru fish can be utilized as a source of amino acids. This study aimed to determine the effects of filter cake fertilizer and lemuru fish amino acids on sugarcane growth. The research was conducted at the field of Politeknik Negeri Jember. The experimental method used was a factorial Randomized Complete Block Design (RCBD) consisting of two factors. The first factor was the growing medium, namely M0 = topsoil (1): sand (1), M1 = topsoil (1): sand (1): filter cake fertilizer (8), and M2 = topsoil (2): sand (1): filter cake fertilizer (7). The second factor was lemuru fish amino acid application, namely A0 = 0 ml/l, A1 = 25 ml/l, and A2 = 20 ml/l. Each factor consisted of three levels and was replicated three times. The results showed that filter cake fertilizer had a significant effect on sugarcane growth. Meanwhile, the application of lemuru fish amino acids had a non-significant effect. An interaction between filter cake fertilizer and lemuru fish amino acids was observed in plant height and leaf length parameters at 12 weeks after planting (WAP).

Keywords: filter cake fertilizer, lemuru fish amino acids, growing medium