THE EFFECT OF GREEN BEAN SURROUNDING EXTRACT AS A NATURAL ZPT ON THE GROWTH OF SUGAR CANE (*Saccharum officinarum* L.) USING BUD CHIPS METHOD

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ABSTRACT

Sugarcane (*Saccharum officinarum* L.) is a plantation commodity that has an important role in the economy in Indonesia. The need for sugarcane increases with the increase in population. This study aims to determine the effect of bean sprout extract concentration on the growth of sugarcane seedlings using the bud chips method and to determine the best concentration. Bud chips are a potential method of vegetative sugarcane seeding which is used to increase sugarcane production. To stimulate and stimulate the formation of roots, shoots, and leaves, growth regulators (ZPT) are needed, one of which is mung bean sprout extract which has a concentration of 1.68 ppm auxin compounds, 39.94 ppm gibberellins, and 96.26 ppm cytokinins. Green bean sprouts are a type of vegetable that is commonly consumed, easy to obtain, inexpensive and non-toxic so that it becomes an alternative to synthetic ZPT, which is relatively more expensive and has limited availability. The concentration of bean sprout extract used in sugarcane nurseries varied, including T_0 (control), T_1 20%, T_2 40%, T_3 60%, T_4 80%. The best concentration was found in the T_2 treatment (20%) for each parameter, including the number of tillers 8.80, the highest stem was 18.00 cm, the largest stem diameter was 0.91 cm, the highest number of leaves was 8.20 strands, the longest leaf which is 73.3 cm, the longest root length is 26.3 cm. While the control treatment (T_0) gave poor results.

Keywords: *Sugarcane* (*Saccharum officinarum* L.), *Bud chips*, *Growth Regulators* (*ZPT*), *Bean sprouts Extract*