

**The Effect of Giving BAP and GA3 Growth Regulatory
Substances on the Growth of Sweet Potatoes
(*Ipomea Batatas L.*) Cilembu Varieties In Vitro**

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ABSTRACT

Cilembu is a sweet potato that has a sweet and legit taste that's not prosessed by other types of sweet potatoes. Cilembu has a high carbohydrate, vitamin and mineral. Therefore this plant has the potential as a substitute for rice in alternative food forms. The problems happened of various constraints, cultivation techniques as well as poor quality seedlings of cilembu plants. Therefore, it is necessary to improve the quality of production centers by increasing the need for quality seedlings in tissue culture techniques. This research was conducted by adding BAP and GA3 concentrations to stimulate the growth of cilembu explants. This research was conducted in September 2019 until February 2020 at the Tissue Culture Laboratories State of Polytechnic Jember. The experimental design was arranged using factorial completely randomized design with 2 factors. The first factor is BAP concentration with 1 ppm; 1.5 ppm; 2 ppm. The second factor is the concentration of GA3 with 0.1 ppm; 0.5 ppm; 1 ppm. The results showed the addition of optimal BAP concentrations to root length and number of roots in Cilembu sweet potato plants in vitro, where the optimal root length concentration was 1 ppm while for the optimal concentrated root number was 1.5 ppm. Addition of GA3 concentration with an optimal 0.5 ppm concentration at the time of shoots. While the addition of GA3 concentration with a concentration of 0.1 ppm is optimal for the number of leaves, and the number of nodes. Interaction BAP and GA3 gave the best results for the root parameters with concentration 1 ppm BAP and 0,1 ppm GA3.

Keywords: BAP, GA3, and Cilembu