THE APPLICATION OF THE TYPE AND CONCENTRATION OF CYTOKININ ON MULTIPLICATION OF BLACK POTATO SHOOTS (*Plectranthus rotundifolius* (Poir.) Spreng.) IN VITRO). Rudi Wardana S.Pd, M.Si as chief counselor.

Lussy Dwi Oktavia
Study Program of Food Production Technology
Department of Agricultural Production

ABSTRACT

Cultivation of black potato plants (Plectranthus rotundifolius (Poir.) Spreng.) in Indonesia has not been cultivated optimally due to the limited super quality of seedling supply. farmers still use their own seeds cultivation which are prone to disease. Therefore, the effort is the provision of good black potato seedlings either quality or quantity through tissue culture (in vitro) with the multiplication technique of shoots. The purpose of this study is to find out the effective type and concentration of cytokinin to accelerate the multiplication process of black potato shoots through in vitro by using BAP, kinetin, and TDZ. The research was conducted in October 2019-February 2020 in the Tissue Culture Laboratory, State Polytechnic of Jember. The experimental design used was a factorial Complete Randomized Design (CRD) with 3 types of cytokinin (BAP, kinetin, and TDZ) and 3 concentration levels (1 ppm; 3 ppm; and 5 ppm). In this study there were nine treatments each consisting of three replays. Observation data are tested by using Analysis of Variance (ANOVA), and continued by using Duncan Multiple Range Test (DMRT) test at 5% and 1% level. The results showed that the application of type treatment and concentration of cytokinin BAP 1 ppm had a high significantly different effect on the number of shoots which is about 12.33 shoots/explan. While the application of treatment type and concentration of cytokinin kinetin 3 ppm had a significantly different effect on the of the shoots is about 12.00 cm.

Keywords: *BAP; kinetin; TDZ.*