

ABSTRACT

Wahyuningtias, Luluk. 2014. **The Induction of Callus Akasia (*Acacia mangium*) with combination 2,4-D and BAP into the MS medium.** Thesis. Biology Department, the Faculty of Saints and Technology, State Islamic University Maulana Malik Ibrahim, Malang. Advisor I: Ruri Siti Resmisari, M. Si and Advisor II: Ach. Nashichuddin, M. A.

Keywords: Callus Acacia (*Acacia Mangium*), 2,4-D, BAP

Akasia (*Acacia Mangium*) is one of species of priority plants in planting industry plant forest (HTI) in which its threes are needed as the main material of *pulp* and papers. The development of *pulp* industry and papers which is predicted in 2017 raised up to 26.5% in an amount of 10 million ton, forces the supplying of akasia seed globally. However, the supplying of acacia seed in the way of generative function needs a long time period and the unguaranteed results of the seeds in the matter of quality. The way of *in vitro* through callus function constitutes the alternative way which can be used as supplying acacia seeds globally in short time and its quality can be guaranteed. The successful of callus function is supported by the existence of the helping liquid to grow namely auksin and sitokinin. Auksin and sitokin which are usually used in callus function are 2,4-D and BAP. This study aims to know the influences of given combination 2,4-D and BAP to MS medium toward callus induction of Akasia (*Acacia mangium*)

This study was done in the plant tissue culture laboratory, Biology Department, the faculty of Saints and Technology, State Islamic University Maulana Malik Ibrahim, Malang from May to August, 2014. The method of the study is complete random plan with 2 factors. The first factor with the concentration treatment of 2,4-D (*Diclorophenoxyacetic acid*) is 0 mg/L, 1 mg/L, 2 mg/L, and 4 mg/L. The second factor with concentration treatment of BAP (*Benzyl amino purine*) yaitu 0 mg/L, 0,5 mg/L, and 1 mg/L to induct callus akasia (*Acacia mangium*)

The data was analyzed by variant (ANAVA) with further test of DMRT 5%. The results of the study show that the combining treatment of 2,4-D and BAP has a significant influence toward the appearance day ($\rho=0,00$) but no influence toward the percentage of callus with explant ($\rho=0,06$). The best combination in growing callus akasia (*Acacia mangium*) is 4 mg/L, 2,4-D + 0,5 mg/L BAP. This combination is capable of inducing callus for 33 days with 77.78%. Besides, callus which was created was white and compact texture.