

## ABSTRACT

Darojat, Mas Khoirud. 2014. **The Effect of Concentration and Soaking Time Extract Onion (*Allium cepa* L.) to Viability Of Cocoa Seedling (*Theobroma cacao* L.)**. Final Assignment, Biology Department, Faculty of Science and Technology . Maulana Malik Ibrahim Malang State University. Supervisor I: Ruri Siti Resmisari, M.Si (II) Ach. Nasichuddin, M.A.

Keywords: onion (*Allium cepa* L.), viability, cocoa (*Theobroma cacao* L.)

Cocoa seed is recalcitrant seed, it is seed that is not resistant with high temperature or drained, sensitive to temperature and low humidity. Difficulty and problem are to handle recalcitrant seed itself in the cultivation it. There have been many attempts were made to improve the viability of recalcitrant seed, one of the effort that has been made to increase recalcitrant seed viability by selected growth regulators as seed treatment in recalcitrant seed. This study aimed to determine the effect of a natural growth regulator contained in extract of onion (*Allium cepa* L.) to the viability of cocoa seedling (*Theobroma cacao* L.).

The research design used in this study was a completely randomized design (CRD) with 2 factors. The first factor is the concentration of onion extract comprising 5 level (0%, 10%, 20%, 30% and 40%). And the second factor, namely long soaking in the onion extract solution consisting of 3 levels (3 hours, 6 hours and 9 hours). Data obtained from this study was analyzed by analysis of variance (ANOVA) and when the treatment has significant effect then followed by Duncan's Multiple Range Test (DMRT) at 5% level.

The result showed that extract of onion (*Allium cepa* L.) concentration 10% (K1) was able to increase the germination percentage, growth speed, hypocotyl length and root length of cocoa seed (*Theobroma cacao* L.). Whereas at 6 hours soaking (L2) in extract of onion (*Allium cepa* L.) was able to increase the germination percentage, speed of growth, hypocotyl length cocoa seed (*Theobroma cacao* L.), and the root length of long immersion has a significantly effect was 9 hours soaking time (L3). But there was no interaction effect of concentration and soaking time extract of onion (*Allium cepa* L.) on cocoa seed viability (*Theobroma cacao* L.).