

ABSTRACT

Wati, Devita Ilmi Aulia, 2013. The Effect of Submersion Within Coconut Water (*Cocos nucifera*) on The Viability of Red Rosella Seed (*Hibiscus sabdariffa* var. *sabdariffa*). Final Paper, Department of Biology, Faculty of Science and Technology, State Islam University (SIU) of Maulana Malik Ibrahim Malang. Advisors: (I) Dr. H. Eko Budi Minarno, M.Pd, (II) Dr. H. Ahmad Barizi, M.A.

Keywords: Coconut Water (*Cocos nucifera*), Seed Viability, Red Rosella (*Hibiscus sabdariffa* var. *sabdariffa*)

Vegetative science has been explained in Al-Quran long before the development of knowledge. Red Rosella (*Hibiscus sabdariffa* var. *sabdariffa*) represents an orthodox seed from Malvaceae Family with various benefits for health. One such benefit is being anti-oxidant. The demand for red rosella seed is getting higher, but the stock is deteriorated due to less cautious storage. Therefore, the demand of red rosella cannot be met maximally. The problem of seed decrement is solved by submerging the seed with young coconut water. Within young coconut, there is organic compound with the ability to stimulate germination from red rosella seed. The understanding of the organic compound from coconut water may help to figure out the optimum concentration of this compound that is influencing the viability of red rosella seed. Submersion length is also important because it may give chance for organic compound to go into the seed. The objective of the research is to acknowledge the effect of concentration and submersion length of coconut water on the viability of red rosella seed (*Hibiscus sabdariffa* var. *sabdariffa*).

Research is carried out at Plant Physiology Laboratory, Department of Biology, Faculty of Science and Technology, SIU of Maulana Malik Ibrahim Malang on March 2013. The design of research is Complete Random Planning (CRP) with 2 factors and 3 replications. First factor is some concentrations of coconut water such as 0 %, 25 %, 50%, 75 %, and 100 %. Second factor is some submersion lengths such as 6 hours, 8 hours, 10 hours and 12 hours. Data obtained from the result of research are analyzed with variance analysis and followed by *Duncan Multiple Range Test* (DMRT) at significance rate of 5 % to understand the best treatment.

Result of research indicates that the concentration and submersion length in the coconut water (*C. cunifera*) influence the viability of Red Rosella (*H. sabdariffa* var. *sabdariffa*). The increase of the effect is apparent possibly because the coconut water may contain the growth substance and organic compound that is supporting germination. The best concentration of coconut water with the ability to increase the germination parameter and with the improved dry weight is 100 % concentration, while the most effective concentration for simultaneous growth is 75 % concentration. The best submersion length is 8 hours. The best interaction between concentration and submersion length of all variables is 100 % concentration and 8 hours submersion length.