

ABSTRACT

Rismawati. 2013. Using Polyethylene Glycol Invigorasi influence (PEG) 6000 on Seed Viability of *Jatropha* (*Jatropha curcas* L.). Thesis, Department of Biology, Faculty of Science and Technology of the State Islamic University of Maulana Malik Ibrahim Malang. Biology Tutor: Dr. H. Eko Budi Minarno, M.Pd., Tutor Religion: Dr.H. Ahmad Barizi, MA.

Keywords: Invigorasi, Polyethylene Glycol (PEG) 6000, Viability, *Jatropha* (*Jatropha curcas* L.)

Jatropha (*Jatropha curcas* L.) is a plant that is used for alternative fuel sources. *Jatropha* (*Jatropha curcas* L.) included in the family Euphorbiaceae is widely cultivated in Indonesia. *Jatropha* Propagation is done by society using generative (seed). Problems faced related to the use of seed is seed viability during and after storage. Decreased seed viability needs to be improved by using a technique invigorasi Polyethylene Glycol (PEG) 6000. This study aimed to determine the effect of invigorasi using Polyethylene Glycol (PEG) 6000 on the viability of *Jatropha* seeds (*Jatropha curcas* L.).

This research was conducted in the Laboratory of Ecology Department of Biology UIN Maulana Malik Ibrahim Malang in January-June 2013. The research design used was a completely randomized design (CRD) with 2 (two) factors and 3 replications. The first factor is the concentration of PEG 6000 0%, 2.5%, 5%, and 7.5%. The second factor is the treatment of soaking time, includes 3 hours, 6 hours, 9 hours. Data obtained from this study were analyzed by analysis of variance (ANOVA) and to determine the best treatment to test the Duncan Multiple Range Test (DMRT) at 5% significance level.

Results of the study showed that there is an influence invigorasi using PEG 6000 on the viability of *Jatropha* seeds (*Jatropha curcas* L.). Concentration of PEG 6000 treatment on the viability of *Jatropha* seeds (*Jatropaha curcas* L.) can enhance germination percentage and seedling dry weight. Effective concentration of PEG 6000 is 5% yield germination of 75.78, 54.44% and simultaneity grow dry weight of 8.27 grams. Long immersion in PEG treatment effective yield is 3 hours germination of 72.17%, simultaneity grew 53% and dry weight of 7.06 grams. Combination treatment interaction is the most effective concentration of 5% for 3 hours produces germination of 85.33%, 61.33% and simultaneity grow dry weight of 9.63 grams.