

ABSTRAK

Ailah, M. H. 2011. **The Effect of Concentration and Length of Soaking Using Polyethylene Glicol (PEG) 6000 on the Viability of Seeds Jatropha (*Jatropha curcas* L.)**. Assistance Lecture I: Suyono, MP. Assistance Lecture II: Ach. Nashihuddin, M.Ag.

Keyword: osmoconditioning, concentration, length of soaking, *polyethylene glicol* (PEG) 6000, viability, *Jatropha* (*Jatropha curcas* L.).

Invigoration is one alternative to overcome the low seed quality by treating the seed before planting. One technique of invigoration that is frequently used called osmoconditioning that describes the relationship with the motion of the inclusion compound seed at low water potential, usually done by immersion. Osmoconditioning succes is determined by the amount of water into seeds, osmotic potential and the type of solution used polyethylene glicol (PEG) 6000. The used of PEG in invigoration because the compound is not toxic and can lower the osmotic potential so that helps imbibition of water into the seed. This study aims to determine the effect of invigoration using polyethylene glicol (PEG) 6000 on the viability of seeds jatropha (*Jatropha curcas* L.).

This research was conducted in September 2010 in Plant Physiology Laboratory and Biology Department Greenhouse State Islamic University (UIN) Maulana Malik Ibrahim Malang. The research design used was Completely Randomized Design (CRD) with 2 factors and 3 replications. The first factor is the concentration of *polyethylene glicol* (PEG) 6000 0 ppm, 5 ppm, 10 ppm and 15 ppm. The second factor is the length of soaking 6 hours, 12 hours, 18 hours and 24 hours. Research variables ie percent age germination, speed coefficient grows, long hypocotyls and long roots. Data obtained from this study were analyzed by ANOVA and to determine the best treatment to test Duncan Multiple Range Test (DMRT) with significance level of 5%.

The results showed that there was influence invigorasi using *polyethylene glicol* (PEG) 6000 on the viability of the *Jatropha* seed (*Jatropha curcas* L.). PEG is an effective treatment is 5 ppm. Immersion an effective treatment is 24 hours. As for the interaction of concentration and dipping time there on the percentage of germination, hypocotyl length and root length. Effective interaction is 5 ppm concentration of PEG 6000 with 24 hour soaking.