

ABSTRACT

Fauziyah, Erna. 2013. Effect of Concentration and Long Soaking in sulfuric acid (H₂SO₄) Solvent to breaking of Silk tree seed (*Paraserianthes falcataria* L. Nielsen) dormancy. Thesis, Department of Biology, Faculty of Science and Technology, State Islamic University Maulana Malik Ibrahim of Malang. Adviser : Dr. Evika Sandi Savitri, M.P. Religious Adviser : Ach. Nasichuddin, M.A

Keyword : Dormancy, Sulfuric Acid (H₂SO₄), Silk tree seed (*Paraserianthes falcataria* L. Nielsen).

Silk tree (*Paraserianthes falcataria* L. Nielsen) is kind of plant that can restore degraded forest conditions (decline) and is able to grow under unfavorable conditions, silk tree is an Indonesia multipurpose plant that very important. This plant is chosen as one of forest and industrial plant species in Indonesia, very fast growth, able to adapt in various types of soil. By high demand of wood in Indonesia which still increasing every year, it would required an alternative plant that could produce timber quickly to fulfill the demand for wood in Indonesia. In this case, silk tree is very important to be breed. The growth of Silk tree plant can be done by using the seeds. But the main problem of silk tree seeds germination is physical dormancy because seed coat impermeability of water. The hard seed coat of silk tree causes water withdrawal unobstructed seed coat, So that a preliminary is necessary to break the seed dormancy. The aimed this research is to determine the effect of Concentration and Long Soaking in using sulfuric acid on breaking the seed silk tree dormancy (*Paraserianthes falcataria* L. Nielsen).

This research is done in the Laboratory of Plant Physiology, Department of Biology UIN Malik Ibrahim Malang in July to August 2013. The design of research was used is a completely randomized design by 2 factorial with 3 replication. The first factor is sulfuric acid concentration 0%, 85%, 90% and 95%, second factor is soaking time in sulfuric acid, 35 minutes, 45 minutes and 55 minutes. The result from this research were analyzed using analysis of variance, and to determine the best treatment is further test using Duncan Multiple Range Test (DMRT) with a significance level of 5%.

The Results of the research showed that there is an influence of chemical scarification with sulfuric acid on silk tree (*Paraserianthes falcataria* L. Nielsen) seed germination. Sulfuric acid concentration is affect on germination, hypocotyl length, time and rate of sprouts. The most effective concentration for optimal germination is 90%. The best soaking and very effective time in sulfuric acid is 55 minutes. While for velocity and rate germination is 35 minutes. The most effective for Interaction between concentration and immersion for germination time, germination velocity and length of hypocotyl was a concentration of 90% with 55 minutes soaking time. While for the germination, present in concentrations 90% with 35 minutes soaking time.