

ABSTRACT

Mali'ah, Siti. 2014. **Effect of Concentration and Long soaking in Sulfuric Acid (H₂SO₄) on Seed Germination Saga Tree (*Adenanthera pavonina* L.)**
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Saga Tree was one kind of Leguminosae that the fruit resembled a banana (pod type) with small red beans and hard seed bark. Saga Tree (*Adenanthera pavonina* L.) was a multipurpose plant, all parts of the plant was helpful, starting from seeds, wood, bark and leaves. Without a dormancy breaking treatment Saga Trees have the ability to germinate in a relatively long time ie $\pm$ 2-3 months, thus requiring special handling. In order for the tree saga germination is faster, it is necessary to dormancy breaking actions. In this research, the dormancy breaking by using sulfuric acid were allegedly able to soften the hard seed coat. The purpose of this study was to determine the effect of concentration and long soaking in sulfuric acid on tree saga seed germination.

This study used experimental that using a completely randomized design (CRD) with 20 treatments and 3 replications. Treatment in this study there were two factors: first was Sulfuric Acid Concentration and second factor was long soaking. Factor 1 includes: K0 0%, K1 50%, K2 60%, K3 70% and K4 80%, while the factor included L1 = 15 minutes, L2 = 20 minutes, L3 = 25 minutes, L4 = 30 minutes. Data were analyzed with ANAVA test of Two Way $\alpha = 5\%$, were analyzed using SPSS 16.0. If there was a significant difference then followed by (DMRT) with a significance level of 0.05%.

The results of this study indicated that, K2 concentration (60%) can increase the percentage of germination and hypocotyl length, whereas the concentration of K4 (80%) can increase the rate of germination. And the most effective long soaking was L3 (25 minutes) that was able to increase Tree Saga seed germination on all parameters that included germination percentage, rate of germination and hypocotyl length. For interaction concentration of 60% and 25 minute of long soaking in sulfuric acid showed the best results on germination percentage parameters, whereas it had no effect on the germination rate parameters and hypocotyl length