

ABSTRACT

TAMARIND (*Tamarindus indica*) SEED GERMINATION RESPONSE TO POTTASIUM NITRATE (KNO₃) IN VARIOUS CONCENTRATIONS

By

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Tamarind (*Tamarindus indica*) is a multipurpose tree that can be developed either vegetative or generative propagation. Vegetative propagation of tamarind can produce abundant fruit if the plant organs derived from superior parent trees. However, due to the rare availability of natural tamarind stands now days, then the generative propagation by seed, can be the right choice for its cultivation. Generally, tamarind seeds are dormant, so it requires a pre-treatment to break its dormancy. One way to break it was using potassium nitrate (KNO₃). This study aimed to determined the response of soaking treatment to the germination of tamarinds seeds with KNO₃ solution at various concentrations and the most effective concentration of KNO₃ solution to stimulate tamarind seeds germination. The experiment was conducted at the Greenhouse Seed Control and Certification Institute of Food Crops and Horticulture (BPSBTPH) Lampung Province, from July to August 2013. This research used Completely Randomized Design (CRD), with 5 treatment of KNO₃ solution soaking (0,1%, 0,2%, 0,3%, 0,4% and without KNO₃) and 3 replications. Every unit of experiments consisted of 100 seeds.

Observed parameters included percentage of germination, mean of day germination and percentage of germination seeds per day. Bartlett test was employed to figure out the homogeneity of datas. Then, analysis of variance was used to analyse datas. Honestly Significant Difference (HSD) was used to the advanced analysis. The entire data tested on 5% significant level. The result showed that soaking of tamarind seeds with solution of KNO_3 concentrations 0,2%, 0,3%, and 0,4% gave the same result on percentage of germination and percentage of germination seeds per day with soaking in water (without KNO_3), and the most effective concentration to increase the percentage of germination and percentage of germination seeds per day by soaking tamarind seeds with a solution of KNO_3 concentration 0,4%.

Keywords: dormancy, germination, pottasium nitrate, tamarind.