

# GERMINATION AND GROWTH OF SUGAR PALM SEEDS (*Arenga pinnata* Merr.) USING MECHANICAL SCARIFICATION AND GIBBERELLIN

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## ABSTRACT

Sugar palm (*Arenga pinnata* Merr.) is a plant that has high economic potential. The obstacle to germination of sugar palm seeds is dormancy caused by the hard structure of the seed coat. The research aims to determine the effect of mechanical scarification treatment and gibberellin concentration on the germination and growth of sugar palm seeds. The research was conducted in April-July 2024 at the Green House, Faculty of Agriculture, UPN "Veteran" Yogyakarta. The research used two-factor CRD. The first factor was mechanical scarification treatment consisting of sanding and scratching. The second factor was the gibberellin concentration consisting of 0 ppm, 100 ppm, 150 ppm and 200 ppm. Data were analyzed using ANOVA variance followed by a further DMRT test and *trend comparasion* with a level of 5%. There was an interaction between scarification treatment and gibberellin concentration. The combination of sanding scarification treatment with a gibberellin concentration range of 115.40 – 168.33 ppm could increased the parameters of germination, maximum growth potential, first count test, plumule height 28, 42, and 56 DAT, root length, root wet weight, and dry weight root. Sanding scarification treatment and gibberellin concentration of 100 ppm could increased the parameters of 14 DAT plumule height and root volume.

**Keywords:** Sugar Palm Seeds, Scarification, Gibberellin