

THE EFFECT OF SULFURIC ACID (H₂SO₄) CONCENTRATION AND GIBBERELIN (GA₃) CONCENTRATION ON THE BREAKING OF SEED DORMANCY AND GROWTH OF TEAK SEEDS (*Tectona grandis*)

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ABSTRACT

Constraints in teak nurseries, namely the seeds have a dormancy period, teak seeds have thick and hard skin so that they are impermeable to water and gas. This can be overcome by immersing H₂SO₄ and GA₃. This study aims to determine the interaction between H₂SO₄ and GA₃ treatment on seed dormancy and growth of teak seedlings. The research method was a field experiment with a factorial RAL pattern with 2 factors plus 1 control with 4 replications. Factor 1 is the concentration of H₂SO₄ used, namely 50%, 60%, 70%. Factor 2 was the concentration of GA₃ used, namely 5 ppm, 10 ppm, 15 ppm. The results showed that the combination treatment was better than the control on all variables except the number of leaves at 90 HST. There was an interaction between the combination of H₂SO₄ and GA₃ treatments on root length and dry weight variables. The combination of 50% H₂SO₄ treatment gave optimal root length and dry weight at 10.16 ppm GA₃. The combination of 60% H₂SO₄ treatment gave optimal root length and dry weight as the concentration of GA₃ was added. The combination of 70% H₂SO₄ treatment gave optimal root length and dry weight at 9.63 ppm GA₃. Concentration of 70% gives optimal results on the variable germination, vigor index, growth speed, maximum growth potential. GA₃ treatment with a concentration of 10 ppm gave optimal results on seed dry weight and root volume variables.

Keywords: *teak seeds, dormancy, gibberellins, sulfuric acid.*