

ABSTRAK

PENGARUH LAMA PERENDAMAN BUAH JATI DALAM ASAM SULFAT (H_2SO_4) DAN KONSENTRASI GIBERELIN (GA_3) TERHADAP PERKECAMBAHAN BENIH JATI (*Tectona grandis* L.)

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Jati (*Tectona grandis* L.) merupakan jenis tanaman bernilai ekonomi tinggi, namun pengembangannya terkendala oleh rendahnya perkecambahan akibat dormansi pada buah yang memiliki endokarp keras dan impermeabel. Penelitian ini bertujuan untuk mengetahui pengaruh lama perendaman asam sulfat (H_2SO_4) dan konsentrasi giberelin (GA_3) serta memperoleh kombinasi perlakuan terbaik terhadap perkecambahan benih jati. Penelitian dilaksanakan pada Januari hingga Maret 2026 di Rumah Kaca Fakultas Pertanian Universitas Siliwangi menggunakan Rancangan Acak Kelompok (RAK) dua faktor. Faktor pertama adalah lama perendaman asam sulfat (0, 15, 25, dan 35 menit), dan faktor kedua adalah konsentrasi giberelin (0, 100, 200, dan 300 ppm). Terdapat 16 kombinasi perlakuan dengan 3 ulangan, masing-masing terdiri dari 50 benih. Parameter yang diamati meliputi daya kecambah, jumlah kecambah per 100 buah, kecepatan tumbuh, bobot kering kecambah, panjang radikula, panjang plumula, dan indeks vigor. Hasil penelitian menunjukkan bahwa tidak terdapat interaksi nyata antara lama perendaman asam sulfat dan konsentrasi giberelin terhadap seluruh parameter yang diamati. Secara mandiri perlakuan asam sulfat berpengaruh nyata terhadap beberapa parameter perkecambahan. Perlakuan paling baik diperoleh pada perendaman asam sulfat selama 25 menit dengan rata-rata daya kecambah 19,17%, jumlah kecambah per 100 buah 23,33, kecepatan tumbuh $1,075\% \text{ etmal}^{-1}$, dan indeks vigor 258,83.

Kata Kunci: asam sulfat, buah jati, dormansi, giberelin, perkecambahan

ABSTRACT

EFFECT OF SOAKING DURATION OF TEAK DRUPES IN SULFURIC ACID (H₂SO₄) AND GIBBERELLIN (GA₃) CONCENTRATION ON THE GERMINATION OF TEAK SEEDS (*Tectona grandis* L.)

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Teak (*Tectona grandis* L.) is a high economic value plant species however, its development is constrained by low germination due to dormancy in fruits characterized by a hard and impermeable endocarp. This study aimed to determine the effect of sulfuric acid (H₂SO₄) soaking duration and gibberellin (GA₃) concentration, as well as to identify the best treatment combination for teak seed germination. The research was conducted from January to March 2026 in the greenhouse of the Faculty of Agriculture, Universitas Siliwangi, using a two-factor randomized block design (RBD). The first factor was sulfuric acid soaking duration (0, 15, 25, and 35 minutes), and the second factor was gibberellin concentration (0, 100, 200, and 300 ppm). There were 16 treatment combinations with 3 replications, each consisting of 50 drupes. The observed parameters included germination percentage, number of germinated seeds per 100 fruits, germination rate, seedling dry weight, radicle length, plumule length, and vigor index. The results showed that there was no significant interaction between sulfuric acid soaking duration and gibberellin concentration on all observed parameters. Independently, sulfuric acid treatment significantly affected several germination parameters. The best treatment was obtained with sulfuric acid soaking for 25 minutes with an average germination percentage of 19.17%, number of seedlings per 100 drupe of 23.33, growth rate of 1.075% etmal⁻¹, and vigor index of 258.83.

Keywords: dormancy, germination, gibberellin, sulfuric acid, teak drupe