SKARIFIKASI FISIK, KIMIA DAN KOMBINASI KNO_3 DALAM PEMATAHAN DORMANSI BENIH KEMIRI (*Aleurites moluccanus* (L.) Willd.) TERHADAP PERKECAMBAHAN DAN PERTUMBUHAN BIBIT

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ABSTRAK

Dormansi fisik akibat cangkang yang keras menyebabkan benih kemiri (*Aleurites moluccanus* (L.) Willd.) berkecambah secara lambat dan tidak serempak. Penelitian ini bertujuan untuk mengevaluasi efektivitas perlakuan fisik, kimia, serta kombinasinya dengan KNO_3 dalam meningkatkan viabilitas, vigor, dan pertumbuhan bibit kemiri. Penelitian dilaksanakan di *greenhouse* dan terdiri dari dua tahap pengujian, yaitu uji perkecambahan menggunakan bak perkecambahan dan uji pertumbuhan menggunakan polibag. Rancangan percobaan yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 9 taraf perlakuan dan tiga ulangan. Perlakuan tersebut meliputi kontrol, peretakan cangkang, perendaman air panas, pembakaran, perendaman H_2SO_4 3%, serta kombinasi masing-masing perlakuan tersebut dengan KNO_3 10%. Data hasil pengamatan dianalisis menggunakan *Analysis of Variance* (ANOVA) dan dilanjutkan dengan uji kontras ortogonal pada taraf 5%. Hasil penelitian menunjukkan bahwa rata-rata semua perlakuan lebih rendah terhadap kontrol, pada potensi tumbuh maksimum, daya berkecambah, serta berat kering akar. Perlakuan tunggal lebih baik dari perlakuan kombinasi KNO_3 10% pada potensi tumbuh maksimum, daya berkecambah, serta seluruh parameter pertumbuhan. Perendaman H_2SO_4 3% lebih baik dari perlakuan fisik pada seluruh parameter perkecambahan, serta bobot kering tanaman, tunas, dan akar. Perendaman H_2SO_4 3% yang dikombinasikan KNO_3 10% lebih baik terhadap seluruh perlakuan fisik kombinasi KNO_3 10% pada potensi tumbuh maksimum, vigor, daya berkecambah, serta pertumbuhan tanaman.

Kata kunci: Dormansi, H_2SO_4, Kemiri, KNO_3, Skarifikasi

PHYSICAL, CHEMICAL, AND KNO_3 COMBINATION SCARIFICATION IN BREAKING DORMANCY OF CANDLENUT (*Aleurites moluccanus* (L.) Willd.) SEEDS ON SEEDLING GERMINATION AND GROWTH

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ABSTRACT

Physical dormancy due to hard shells causes candlenut (Aleurites moluccanus (L.) Willd.) seeds to germinate slowly and not simultaneously. This study aimed to evaluate the effectiveness of physical and chemical treatments, as well as their combination with KNO_3, in increasing the viability, vigor, and growth of candlenut seedlings. The study was conducted in a greenhouse and consisted of two testing stages: a germination test using a germination tray and a growth test using polybags. The experimental design used was a Completely Randomized Design (CRD) with 9 treatment levels and three replications. These treatments included control, shell cracking, hot water immersion, burning, 3% H_2SO_4 immersion, and a combination of each treatment with 10% KNO_3. Observational data were analyzed using Analysis of Variance (ANOVA) and continued with an orthogonal contrast test at the 5% level. The results showed that all treatments were lower than the control in terms of maximum growth potential, germination capacity, and root dry weight. The single treatment was better than the 10% KNO_3 combination treatment in terms of maximum growth potential, germination power, and all growth parameters. 3% H_2SO_4 immersion was better than the physical treatment in terms of all germination parameters, as well as dry weight of plants, shoots, and roots. 3% H_2SO_4 immersion combined with 10% KNO_3 was better than all physical treatments in terms of maximum growth potential, vigor, germination power, and plant growth.

Keywords*: Candlenut, Dormancy, H_2SO_4, KNO_3, Scarification*