

Percepatan Perkecambahan Biji Pala (*Myristica fragrans* Houtt.) dengan Skarifikasi dan Pemberian Giberelin

INTISARI

Pala (*Myristica fragrans* Houtt.) merupakan komoditi asli Indonesia. Perbanyakan tanaman pala mengalami kendala waktu perkecambahan yang lama karena memiliki kulit biji yang keras. Penelitian ini bertujuan untuk mengetahui pengaruh skarifikasi dan pemberian giberelin (GA) terhadap perkecambahan biji pala. Rancangan penelitian menggunakan rancangan acak lengkap (RAL) pola faktorial, faktor pertama yaitu skarifikasi (S_0 : tanpa skarifikasi, S_1 : skarifikasi bagian tempat keluar radikula, S_2 : skarifikasi semua permukaan biji, dan S_3 : pelukaan kulit biji), faktor kedua yaitu perendaman GA (0, 50, 100, 150 ppm) selama 24 jam, masing-masing kombinasi perlakuan dengan 6 ulangan. Parameter yang diamati meliputi perkecambahan (hari berkecambah, daya kecambah, potensi tumbuh, persentase perkecambahan), pertumbuhan kecambah (panjang akar, tinggi tanaman, jumlah daun, dan lilit batang), serta struktur morfologis dan anatomis biji pala. Analisis data menggunakan Anava yang dilanjutkan dengan DMRT pada taraf kepercayaan 95%, sementara data berupa gambar dideskripsikan berdasarkan hasil pengamatan. Hasil penelitian menunjukkan perlakuan tunggal skarifikasi (pelukaan kulit biji) merupakan perlakuan terbaik pada parameter perkecambahan, sedangkan perlakuan tunggal GA 100 dan 150 ppm berpengaruh nyata terhadap parameter perkecambahan dan pertumbuhan. Kombinasi perlakuan skarifikasi (pelukaan kulit biji) dan GA 150 ppm (G_3S_3) merupakan kombinasi perlakuan terbaik karena meningkatkan hari berkecambah hingga 9.50 HST, daya kecambah 88.88%, persentase perkecambahan 91.66%, potensi tumbuh 97.22%, panjang akar 13.67 cm, tinggi tanaman 24.95 cm, jumlah daun 3.75, dan lilit batang 1.94 cm. Hambatan utama perkecambahan disebabkan oleh kulit biji yang keras karena terdiri dari sel-sel sklerenkim yang banyak mengandung lignin.

Kata kunci: perkecambahan, biji, pala (*Myristica fragrans* Houtt.), skarifikasi, giberelin

Acceleration of Nutmeg (*Myristica fragrans* Houtt.) Seed Germination by Scarification and Gibberellin Application

ABSTRACT

Nutmeg (*Myristica fragrans* Houtt.) is a native commodity of Indonesia. Propagation of this plant is relatively difficult and takes a long time for germination because of its hard seed coat. The aim of this study was to evaluate the effect of scarification and gibberellin (GA) application on the nutmeg seed germination. Factorial completely randomized design (CRD) was used in this study. The first factor was scarification (S_0 : without scarification, S_1 : scarification at part of the radicle out, S_2 : scarification at all the seed surface, and S_3 : seed coat wounding) and the second factor was GA soaking (0, 50, 100, 150 ppm) for 24 hours, each of combination treatments with six replications. The parameters of germination (days to germinate, germination, growth potential, percentage of germination), growth (root length, plant height, number of leaves, and girth), morphological and anatomical structure of nutmeg seed were observed. Data of germination and growth were analyzed using Anava to DMRT at the level of 95% using SPSS, while data of morphological and anatomical structure were analyzed descriptively. The results showed that scarification (seed coat wounding) was the best treatment to enhance germination, while 100 and 150 ppm GA application of decreased effect on all parameters of germination and growth. Combination of scarification (wounding seed coat) and soaking on 150 ppm of GA (G_3S_3) was the best treatment for improving germination parameters (day germinate until 9,50 day after plating, 88,88% of germination ability, germination percentage to 91,66%, growth potential to 97,22%) and growth parameters (root length to 13,67 cm, plant height to 24,95 cm, leaf number to 3,75, and girth stem to 1,94 cm). The main barrier of nutmeg germination was caused by a hard seed coat. That consists of ligneous sclerenchyma cells.

Keywords: germination, seed, nutmeg (*Myristica fragrans* Houtt.), scarification, gibberellin