

## RINGKASAN

Tanaman aren merupakan tanaman tahunan dengan masa dormansi lama yang disebabkan oleh struktur kulit yang keras sehingga sulit menyerap air untuk berkecambah. Pematahan dormansi dapat diatasi dengan perlakuan perendaman benih menggunakan bahan kimia (stratifikasi). Penelitian ini bertujuan untuk mengetahui: (1) Pengaruh berbagai macam bahan stratifikasi terhadap perkecambahan benih aren (2) Pengaruh waktu perendaman dan konsentrasi bahan stratifikasi terhadap perkecambahan benih aren (3) Interaksi antara bahan stratifikasi, konsentrasi dan waktu perendaman terhadap perkecambahan benih aren.

Penelitian dilaksanakan di Dukuh 2, Desa Pasir Kulon, Kecamatan Karanglewas, Kabupaten Banyumas, Jawa Tengah dengan ketinggian tempat 140 mdpl mulai September 2020 sampai Maret 2021. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) secara faktorial yang diulang tiga kali. Perlakuan yang dicoba terdiri dari tiga faktor, faktor pertama yaitu bahan stratifikasi yaitu POC Nasa, Bio-P60 dan Bio-T10, faktor kedua yaitu konsentrasi yang terdiri dari 5 level yaitu 5%, 25%, 50%, 75% dan 100%. Faktor ketiga adalah waktu perendaman yang dibagi menjadi 4 level yaitu 0 menit, 30 menit, 60 menit dan 90 menit. Variabel pengamatan terdiri dari tinggi tanaman, jumlah daun, daya kecambah, laju perkecambahan, panjang akar, volume akar, bobot tanaman segar, bobot tanaman kering dan kadar klorofil daun. Data dianalisis menggunakan sidik ragam (ANOVA) pada taraf kesalahan 5% dan bila F hitung menunjukkan pengaruh yang nyata maka dilanjutkan dengan uji beda *Duncant's Multiple Range Test* (DMRT) untuk membandingkan pengaruh antar perlakuan.

Hasil penelitian menunjukkan bahwa: 1. Pengaruh bahan stratifikasi, konsentrasi dan waktu perendaman terhadap perkecambahan tanaman aren tidak berpengaruh nyata terhadap semua variabel pengamatan. 2. Interaksi antara bahan stratifikasi dan konsentrasi, konsentrasi dan waktu perendaman serta bahan stratifikasi, konsentrasi dan waktu perendaman tidak berpengaruh nyata terhadap perkecambahan benih aren. Namun, pengaruh sangat nyata terhadap jumlah daun pada interaksi antara bahan stratifikasi dan waktu perendaman.

Kata kunci : Aren, Konsentrasi, POC Nasa, Bio-P60, Bio-T10, Waktu Perendaman

## SUMMARY

*Sugar palm is an annual plant with a long dormancy period caused by a hard skin structure that makes it difficult to absorb water to germinate. Breaking dormancy can be overcome by soaking the seeds using chemicals (stratification). This study aims to determine: (1) The effect of various stratification materials on the germination of sugar palm seeds (2) The effect of immersion time and concentration of stratification materials on sugar palm seed germination (3) The interaction between various stratification materials, concentration and soaking time on sugar palm seed germination.*

*The experiment was conducted in Hamlet 2, Pasir Kulon Village, Karanglewes District, Banyumas Regency, Central Java with an altitude of 140 meters above sea level from September 2020 to March 2021. This experiment used a factorial Randomized Block Design (RAK) which was repeated three times. The treatment that was tried consisted of three factors, the first factor was stratification material including POC Nasa, Bio-P60 and Bio-T10, the second factor was concentration which consisted of 5 levels is 5%, 25%, 50%, 75% and 100%. The third factor is the immersion time which is divided into 4 levels, namely 0 minutes, 30 minutes, 60 minutes and 90 minutes. The observation variables consisted of plant height, number of leaves, germination rate, root length, root volume, fresh plant weight, dry plant weight and leaf chlorophyll content. The data were analyzed using variance (ANOVA) at an error level of 5% and if the calculated  $F$  showed a significant effect, it was continued with Duncant's Multiple Range Test (DMRT) to compare the effect between treatments.*

*The results showed that: 1. The effect of stratification material, concentration and soaking time on sugar palm germination did not significantly affect all observed variables. 2. Interaction between material stratification and concentration, concentration and soaking time and stratification material, concentration and soaking time did not significantly affect the germination of palm seeds. However, the effect was very significant on the number of leaves on the interaction of the stratification material and the immersion time.*

*Keywords : Sugar palm, Concentration, Nasa POC, Bio-P60, Bio-T10, Immersion time*