

ABSTRAK

Tanaman aren (*Arenga pinnata* (Wurmb.) Merr.) merupakan salah satu komoditas tanaman yang termasuk kedalam hasil hutan non kayu, dari suku Palmae yang sangat berpotensi untuk dibudidayakan secara komersial. Pertumbuhan bibit aren yang optimal diperlukan penggunaan media tanam dan pemberian pupuk. Penelitian ini bertujuan untuk mengetahui pengaruh berbagai media tanam dan bahan organik terhadap karakter morfologi bibit tanaman aren, mengkaji pengaruh berbagai media tanam dan bahan organik terhadap karakter fisiologi bibit tanaman aren, serta mengkaji interaksi antara berbagai macam media tanam dan bahan organik terhadap karakter morfologi dan fisiologi bibit tanaman aren.

Penelitian ini dilaksanakan di *Screen House* Lahan *Exfarm* Fakultas Pertanian Universitas Jenderal Soedirman, Laboratorium Agronomi dan Hortikultura Fakultas Pertanian Unsoed, Kabupaten Banyumas. Pelaksanaan penelitian dari September 2022 sampai Januari 2023, dengan ketinggian tempat penelitian berada pada 110 mdpl. Penelitian ini menggunakan percobaan faktorial. Metode yang digunakan pada penelitian ini adalah 2 faktor yang diatur menggunakan Rancangan Acak Kelompok (RAK). Faktor pertama yaitu media tanam (M) yaitu M1 = tanah, M2 = tanah + kompos, M3 = tanah + pupuk kandang kambing. Faktor kedua adalah bahan organik (B) yaitu B1 = POC SO-Kontan, B2 = asam humat, B3 = asam sitrat. Variabel yang diamati yaitu pertambahan tinggi bibit, pertambahan diameter batang, pertambahan jumlah anak daun, pertambahan jumlah pelepah daun, pertambahan panjang anak daun, pertambahan lebar anak daun, kehijauan daun, jumlah stomata, kerapatan stomata, dan aktivitas nitrat reduktase.

Hasil penelitian ini menunjukkan bahwa penggunaan media tanam dan bahan organik berpengaruh terhadap karakter morfologi bibit tanaman aren pada variabel pertambahan diameter batang dan lebar anak daun. Penggunaan media tanam dan bahan organik berpengaruh terhadap karakter fisiologi bibit tanaman aren hanya pada variabel kehijauan daun. Perlakuan interaksi media tanam dan bahan organik hanya berpengaruh pada pertambahan lebar anak daun. Penggunaan media tanam tanah + pupuk kandang kambing dan asam sitrat menghasilkan pertambahan lebar anak daun tertinggi pada bibit aren.

ABSTRACT

Sugar palm (Arenga pinnata (Wurmb.) Merr.) is one of the plant commodities included in non-timber forest products, from the Palmae tribe which has the potential to be cultivated commercially. Optimal growth of aren palm seedlings requires the use of planting media and fertilizer. This study aims to determine the effect of various planting media and organic materials on the morphological characteristics of palm seedlings, examine the effect of the physiological characteristics of palm seedlings on various planting media and organic materials, examine the interaction between various planting media and organic materials on the morphological and physiological characteristics of palm seedlings.

This research was conducted in the Screen House of Exfarm Land, Faculty of Agriculture, Universitas Jenderal Soedirman, Agronomy and Horticulture Laboratory, Faculty of Agriculture, Unsoed, Banyumas Regency. The research was conducted from September 2022 to January 2023, with the height of the research site at 110 meters above sea level. This research used factorial experiment. The method used in this study was 2 factors arranged using a Randomized Group Design (RAK). The first factor is planting media (M), namely M1 = soil, M2 = soil + compost, M3 = soil + goat manure. The second factor is organic matter (B), namely B1 = POC SO-Kontan, B2 = humic acid, B3 = citric acid. The variables observed were seedling height increase, stem diameter increase, number of leaflets increase, number of leaflets increase, leaflet length increase, leaflet width increase, leaf greenness, number of stomata, stomatal density, and nitrate reductase activity.

The results of this study showed that the use of planting media and organic materials influenced the morphological characteristics of palm seedlings on the variables of stem diameter and leaflet width. The use of planting media and organic materials affects the physiological characteristics of palm seedlings only on the variable of leaf greenness. The interaction treatment of planting media and organic materials only affects the increase in leaf width. The use of soil + goat manure and citric acid produced the highest increase in leaf width in sugar palm seedlings.