

INTISARI

TANGGAPAN FISIOLOGIS, PERTUMBUHAN, DAN HASIL SERAT TANAMAN ABAKA (*Musa textilis* Nee.) TERHADAP KANDUNGAN FOSFOR TANAH

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Abaka adalah tanaman yang dimanfaatkan bagian batang semuanya untuk dijadikan serat. Penelitian bertujuan untuk mengetahui pengaruh kandungan fosfor (P) tersedia tanah akhir terhadap aktivitas fisiologis, pertumbuhan, dan hasil serat tanaman abaka. Penelitian lapangan dilaksanakan pada bulan September 2022 - Maret 2023 di lahan perkebunan abaka yang berlokasi di Ngemplak, Pakem dan Cangkringan, sedangkan pengujian sampel tanaman dan tanah dilakukan di Laboratorium Manajemen Produksi Tanaman dan Laboratorium Tanah, Fakultas Pertanian, Universitas Gadjah Mada. Percobaan lapangan dilaksanakan menggunakan rancangan lingkungan tersarang (*nested design*), faktor kandungan P tersedia tanah akhir tersarang pada lokasi. Variabel yang diamati yaitu karakteristik iklim mikro, sifat fisika dan kimia tanah, kandungan dan serapan P jaringan, aktivitas fisiologis, pertumbuhan dan hasil serat tanaman abaka. Data yang telah diperoleh selanjutnya dianalisis Kovarian (ANKOVA), jika terdapat beda nyata antar perlakuan dilanjutkan dengan uji Tukey α 5%. Hasil penelitian memberikan informasi bahwa kandungan P pada media tanam di tiga lokasi penelitian bervariasi. Kandungan P tersedia tanah akhir sebesar 8.18 mg/kg (Ngemplak) menyebabkan tanaman abaka memiliki aktivitas fisiologis, pertumbuhan dan hasil serat yang lebih tinggi jika dibandingkan dengan kandungan P tersedia tanah akhir 11.85 mg/kg (Pakem) dan 31.38 mg/kg (Cangkringan).

Kata kunci : abaka, P, fisiologi, pertumbuhan dan serat

ABSTRACT

RESPONSE OF PHYSIOLOGICAL, GROWTH, AND FIBER YIELD OF ABACA (*Musa textilis* Nee.) TO SOIL PHOSPHORUS CONTENT

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Abaca is a crop whose pseudostems are used to make fiber. The research aim was to determine the effect of end soil available P content on the physiological activities, growth, and fiber yield of abaca. Field experiment was carried out in September 2022 - March 2023 on abaca plantations located in Ngemplak, Pakem, and Cangkringan, while tissue and soil samples analysis were carried out at Plant Production Management Laboratory and Soil Laboratory, Faculty of Agriculture, Universitas Gadjah Mada. Field experiment was arranged with nested design, and end soil available P contents were nested to locations. Variables observed were microclimate characteristics, soil physical and chemical properties, tissue P content and uptake, physiological activities, growth and fiber yield of abaca. Data were then analyzed with covariance analysis (ANCOVA), if there were significant differences among treatments then proceed with Tukey Test at α 5% levels. The research showed that end soil available P contents in planting media at three research sites were varies. The end soil available P content of 8.18 mg/kg (Ngemplak) causes abaca to have higher physiological activities, growth and fiber yield when compared to end soil available P contents of 11.85 mg/kg (Pakem) and 31.38 mg/kg (Cangkringan).

Keywords: abaca, P, physiology, growth, and fiber