

INTISARI

Penelitian bertujuan untuk mengetahui hubungan antara kandungan kalium (K) tersedia pada tanah akhir dengan serapan K, aktivitas fisiologis, pertumbuhan, dan hasil serat tanaman Abaka (*Musa textilis* Nee). Penelitian dilaksanakan pada Oktober 2022 – Maret 2023. Percobaan lapangan dilaksanakan menggunakan rancangan lingkungan tersarang (*Nested Design*). Sampel tanaman pisang abaka tersarang di tiga lokasi yaitu Ngemplak, Pakem, dan Cangkringan, Kabupaten Sleman dengan kandungan K tersedia tanah akhir bervariasi. Pengamatan dilakukan pada beberapa variabel cuaca mikro, karakteristik fisika dan kimia tanah, aktivitas fisiologis tanaman, komponen hasil dan hasil serat abaka. Data yang diperoleh selanjutnya dianalisis Kovarian (ANKOVA) dan jika terdapat beda nyata maka dilakukan uji lanjut menggunakan tukey pada taraf kepercayaan 95%. Hasil penelitian memberikan informasi bahwa kadar K tersedia tanah akhir yang rendah karena banyak diserap tanaman tidak mempunyai hubungan dengan kemampuan fotosintesis per satuan luas daun, tetapi mempunyai hubungan dengan kemampuan fotosintesis per tanaman yang lebih tinggi sehingga tanaman mempunyai pertumbuhan, komponen hasil dan hasil serat yang lebih tinggi. Semakin rendah kadar K tersedia tanah akhir maka semakin tinggi kadar K daun dan semakin tinggi serapan K, menyebabkan sifat fisiologis, pertumbuhan dan hasil serat abaka yang semakin tinggi.

Kata kunci: abaka; fisiologis; hasil; kalium; pertumbuhan

ABSTRACT

The aim of research was to determine relationship pattern between soil available potassium (K) content at the end of Abaka season with K uptake, physiological activities, growth, and fiber yield of Abaka (*Musa textilis* Nee). The research was conducted in October 2022 – March 2023. The field experiment was conducted with nested design. Abaca samples were nested in three locations, namely Ngemplak, Pakem, and Cangkringan, Sleman Regency with varying soil available K content at the end season of Abaka. Observations were done on several variables of micro-climate, soil physical and chemical characteristics, physiological activities, yield components and fiber yields of abaca. The data were then analyzed with Covariance Analysis (ANKOVA) and if there were significant differences among treatment then further test were carried out using Tukey at α 5% levels. The results showed that levels of soil available K contents at the end season of Abaka dit not have relationships with photosynthetic ability per unit leaf area. However, levels of soil available K contents at the end season of Abaka have relationships with photosynthetic ability per Abaka stand. The lower level of soil available K content at the end season of Abaka, the higher the leaf K content and the higher the K uptake, resulting in higher physiological properties, growth, and fiber yield of abaca.

Keyword: abaca; physiology; yield; potassium; growth