

INTISARI

Penelitian bertujuan untuk mengetahui hubungan antara kandungan nitrogen (N) tersedia tanah akhir dengan serapan N jaringan, aktivitas fisiologis, pertumbuhan dan hasil serat tanaman abaka (*Musa textilis* Nee). Penelitian lapangan dilaksanakan di tiga lokasi yaitu Ngemplak, Pakem, dan Cangkringan, Kabupaten Sleman pada Oktober 2022 – Mei 2023. Percobaan lapangan dilakukan dengan mengambil sampel tanah dan tanaman dengan faktor tunggal berupa kandungan N tersedia tanah akhir tersarang di masing-masing lokasi kajian. Pengamatan dilakukan terhadap beberapa variabel cuaca mikro di lokasi kajian, sifat fisika dan kimia tanah, aktivitas fisiologis, pertumbuhan dan hasil serat tanaman abaka. Data yang diperoleh selanjutnya dianalisis kovarian (ANKOVA), jika terdapat perbedaan nyata antar perlakuan dilanjutkan dengan uji *Tukey Honestly Significant Difference* α 5%. Hasil penelitian memberikan informasi bahwa kandungan N tersedia tanah akhir memiliki hubungan yang kuat dengan serapan N jaringan, aktivitas fisiologi, pertumbuhan dan hasil serat tanaman abaka. Terjadi peningkatan serapan N jaringan yang menyebabkan kenaikan aktivitas fisiologis, pertumbuhan dan hasil serat tanaan abaka ketika kandungan N tersedia tanah akhir sebesar 0,034%.

Kata kunci : Abaka, Fisiologis, Nitrogen, Pertumbuhan, Serat

ABSTRACT

The aim of research was to determine the relationship between soil available nitrogen (N) content at the end season of Abaca with N uptake, physiological activities, growth, and fiber yield of abaca (*Musa textilis* Nee). Field research was carried out in three locations, namely Ngemplak, Pakem, and Cangkringan, Sleman Regency in October 2022 – May 2023. The field experiment was conducted by taking soil and plant samples with the single factor was the soil available N content at the end season of Abaca was nested at each reseach site. Observations were done on several variables of micro-climate, soil physical and chemical properties, physiological activites, growth, and fiber yield of Abaca. Data were then analyzed using covariance (Ancova), if there were significant differences among treatments followed by Tukey Honestly Significant Difference Test at α 5% levels. The results showed that soil available N content at the end season of Abaca have strong relationships with N uptake, physiological activities, growth, and fiber yield of Abaca. There was an increase in tissue N uptake which led to an increase in physiological activity, growth, and fiber yield of Abaca when soil available N content at the end season of Abaca was 0.034%.

Key words : Abaka, Physiological, Nitrogen, Growth, Fiber