

## **PRODUKSI BIOMASSA DAN KANDUNGAN NUTRIEN RUMPUT GAJAH (*Pennisetum purpureum* Schumach.) KULTIVAR BIOVITAS PADA LEVEL PEMUPUKAN YANG BERBEDA**

Ulinuha Farda Qonita Thufaillah  
20/455786/PT/08466

### **INTISARI**

Penelitian ini bertujuan untuk mengetahui level pemupukan NPK yang optimal terhadap produksi biomassa dan kandungan nutrisi rumput gajah (*Pennisetum purpureum* Schumach.) kultivar Biovitas. Penelitian dilaksanakan pada bulan Januari hingga Mei 2023 di Dusun Setren, Desa Megeri, Kecamatan Kradenan, Blora, Jawa Tengah dengan kondisi tanah Aluvial. Analisis kandungan nutrisi dilaksanakan di Laboratorium Hijauan Makanan Ternak dan Pastura, Universitas Gadjah Mada, Daerah Istimewa Yogyakarta. Perlakuan pada penelitian ini dibedakan menjadi 4 level pemberian pupuk dalam Rancangan Acak Kelompok Pola Searah dengan 4 pengulangan. Perlakuan penelitian terdiri dari pemupukan dengan level pemberian 0 kg/ha (kontrol), 200 kg/ha; 400 kg/ha; dan 600 kg/ha. Prosedur kegiatan penelitian terdiri dari penanaman, pemeliharaan, pemupukan, perhitungan produksi biomassa, analisis kandungan nutrisi, dan analisis data. Analisis kandungan nutrisi meliputi analisis bahan kering (BK), bahan organik (BO), protein kasar (PK), serat kasar (SK), dan lemak kasar (LK), bahan ekstrak tanpa nitrogen (BETN), dan *total digestible nutrient* (TDN). Perbedaan level pupuk NPK memiliki pengaruh nyata ( $P < 0,05$ ) terhadap produksi biomassa, kandungan protein kasar, dan *CP yield*, dan bahan ekstrak tanpa nitrogen rumput Biovitas. Produksi segar tertinggi dicapai pada level pupuk NPK 600 kg/ha, tetapi produksi bahan kering dan bahan organik tertinggi dicapai pada level 400 kg/ha. Level pupuk NPK 400 kg/ha memberikan hasil protein kasar, *CP yield*, serat kasar, TDN, dan produksi TDN tertinggi.

Kata kunci: level pupuk NPK, rumput Biovitas, produksi biomassa, kandungan nutrisi

## BIOMASS PRODUCTION AND NUTRIENT CONTENT OF *Pennisetum purpureum* Schumach CULTIVAR BIOVITAS AT DIFFERENT NITROGEN FERTILIZER LEVELS

Ulinuha Farda Qonita Thufaillah  
20/455786/PT/08466

### ABSTRACT

This study aims to determine the optimal level of NPK Fertilization on biomass production and nutrient content of napier grass (*Pennisetum purpureum* Schumach.) cultivar Biovititas. The research was conducted from January to May 2023 in Setren, Megeri, Kradenan, Blora, Central Java with alluvial soil type. Nutrient content analysis was carried out at Laboratory of Forage and Pasture, Gadjah Mada University, Yogyakarta. The treatments in this study were divided into 4 levels of fertilizer application in a Randomized Block Design with 4 repetitions. The research treatments consisted of fertilization with application levels of 0 kg/ha (control), 200 kg/ha; 400 kg/ha; and 600 kg/ha. The research procedure consisted of planting, maintenance, fertilization, measurement of biomass production, sample preparation, nutrient content analysis, and data analysis. Analysis of nutrient content includes analysis of dry matter, organic matter, crude protein, crude fiber, crude fat, extract material without nitrogen, and total digestible nutrient. Differences of NPK fertilizer levels had significant effect ( $P < 0,05$ ) in the production of dry matter, organic matter, crude protein of Biovititas leaves and stems, and extract material without nitrogen of Biovititas leaves. The highest fresh yield was achieved at the 600 kg/ha NPK fertilizer level, but the highest dry matter and organic matter yields were achieved at the 400 kg/ha level. NPK fertilizer level of 400 kg/ha gave the highest crude protein yield, CP yield, crude fiber, TDN, and TDN production.

**Keywords:** Biomass production, Biovititas grass, NPK fertilizer, nutrient content.