

PENGARUH DOSIS PUPUK NPK TERHADAP PERTUMBUHAN DAN PRODUKSI BIOMASSA RUMPUT GU-1 (*Pennisetum purpureum* cv. GU-1)

Mustika Mayangsari
17/409774/PT/07363

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pupuk NPK dengan dosis yang berbeda terhadap pertumbuhan dan produksi biomassa *Pennisetum purpureum* cv. GU-1 pada pemotongan pertama. Penelitian ini dilakukan selama tiga bulan di Kebun Koleksi dan Laboratorium Hijauan Makanan Ternak dan Pastura, Fakultas Peternakan, Universitas Gadjah Mada, Yogyakarta. Penelitian ini mengamati pertumbuhan dan menghitung produksi tanaman rumput GU-1. Materi tanam yang digunakan adalah pols dari tanaman rumput GU-1. Tanaman tersebut ditanam pada plot berukuran 1 x 1 m². Dengan mengikuti rancang percobaan *completely randomized design*, tanaman mendapatkan 3 perlakuan dosis pemberian pupuk NPK yaitu: 0, 150, dan 300 kg/ha dengan 4 kali pengulangan sehingga plot yang digunakan berjumlah 12. Pemanenan dilakukan pada saat umur tanaman 45 hari. Data yang diperoleh dianalisis variansi dan beda antar rerata diuji dengan *Duncan's new multiple range test* apabila menunjukkan hasil yang signifikan. Hasil penelitian menunjukkan bahwa pemupukan dengan dosis 150 dan 300 kg/ha memberikan hasil lebih tinggi ($P < 0,05$) dibandingkan dengan perlakuan tanpa pemupukan pada tinggi tanaman (219,52 dan 217,56 vs. 198,94 cm), panjang tanaman (222,79 dan 221,56 cm vs. 201,68 cm), panjang daun (122,52 dan 126,27 vs. 116,52 cm), lebar daun (3,58 dan 3,62 vs. 3,28 cm), jumlah daun (14,35 dan 14,42 vs. 12,58 helai), jumlah tunas (4,43 dan 4,68 vs. 2,18), produksi segar (75,7 dan 88 vs. 39 ton/ha), produksi bahan kering (16,5 dan 19,02 vs. 8,62 ton/ha), dan produksi bahan organik (14,63 dan 16,86 vs. 7,64 ton/ha). Pemberian pupuk NPK cukup dengan dosis 150 kg/ha dapat menghasilkan pertumbuhan dan produksi yang baik.

Kata kunci: *Pennisetum purpureum* cv. GU-1, Dosis pupuk NPK, Pertumbuhan, Produksi biomassa.

THE EFFECT OF NPK FERTILIZER DOSAGE ON GROWTH AND BIOMASS PRODUCTION OF GU-1 GRASS (*Pennisetum purpureum* cv. GU-1)

Mustika Mayangsari
17/409774/PT/07363

ABSTRACT

This study aims to determine the effect of NPK fertilizer with different dosage on the growth and biomass production of *Pennisetum purpureum* cv. GU-1 on the first cut. This research was carried out for three months at the Forage Field Research, Laboratory of Forage and Pasture, Animal Science Faculty, Gadjah Mada University. This study observes the growth and calculates the production of GU-1 grass. The planting material that will be used is pols from GU-1 grass. These plants were planted in a plot measuring 1 x 1 m². With oneway completely randomized design the plants received three treatments dosage of NPK fertilizer with 0, 150, and 300 kg/ha with each treatment obtaining 4 replicated so that the plots used amount to 12. GU-1 grass was harvested 45 days after planting. All data were analyzed for variance and the differences between the means were tested with Duncan's Multiple Range Test if it showed significant results. The results showed that fertilization with dosage of 150 and 300 kg/ha gave higher yields ($P < 0,05$) compared to treatment without fertilization at plant height (219.52 and 217.56 vs. 198,94 cm), plant length (222.79 and 221.56 vs. 201.68 cm), leave length (122.52 and 126.27 vs. 116.52 cm), leave wide (3.58 and 3,62 vs. 3.28 cm), number of leaves (14.35 and 14.42 vs. 12.58 sprigs), number of tilles (4.43 and 4.68 vs. 2.18), fresh production (75.7 and 88 vs. 39 ton/ha), DM production (16.5 and 19.02 vs. 8.62 ton/ha), and OM production (14.63 and 16.86 vs. 7.64 ton/ha). Application of sufficient amount of NPK fertilizer at a dosage of 150 kg/ha can produce good growth and production.

Keywords: *Pennisetum purpureum* cv. GU-1, Dosage of NPK fertilizer, Growth, Biomass production.