

ABSTRACT

This study aimed to evaluate the effect of different urea fertilizer levels on biomass production and nutrient content of *Canavalia ensiformis* (Jack Bean) during its first regrowth phase. The research was conducted in Megeri Village, Blora Regency, Central Java, from March to May 2024, using a Completely Randomized Block Design (CRBD) with three urea treatments (0, 150, and 300 kg/ha). Observed parameters included fresh biomass, dry matter, organic matter, crude protein, crude fiber, crude fat, and total digestible nutrients (TDN). Data were analyzed using ANOVA and Duncan's Multiple Range Test (DMRT) at a 95% confidence level. Results showed that urea application had no significant effect on biomass production but significantly influenced nutritional composition. The highest crude protein content (27.04%) was observed at 300 kg/ha, indicating its effectiveness in enhancing forage quality. Crude fiber content decreased significantly with increasing urea levels, while the highest TDN value (62.97%) was recorded at 150 kg/ha. Based on these findings, 300 kg/ha is recommended as the optimal dose to improve crude protein in *Canavalia ensiformis*, supporting its use as a high-protein forage in tropical livestock systems, especially on marginal lands.

(Keywords: biomass, *Canavalia ensiformis*, crude protein, nitrogen, urea)

Penelitian ini bertujuan untuk mengevaluasi pengaruh tingkat pupuk urea yang berbeda terhadap produksi biomassa dan kandungan nutrisi Kacang Koro Pedang (*Canavalia ensiformis*) selama fase pertumbuhan kembali pertama. Penelitian dilakukan di Desa Megeri, Kabupaten Blora, Jawa Tengah, dari Maret hingga Mei 2024, menggunakan Rancangan Acak Kelompok Lengkap (RAL) dengan tiga perlakuan urea (0, 150, dan 300 kg/ha). Parameter yang diamati meliputi biomassa segar, bahan kering, bahan organik, protein kasar, serat kasar, lemak kasar, dan total nutrisi yang dapat dicerna (TDN). Data dianalisis menggunakan ANOVA dan Uji Rentang Berganda Duncan (DMRT) pada tingkat kepercayaan 95%. Hasil penelitian menunjukkan bahwa pemberian urea tidak berpengaruh nyata terhadap produksi biomassa tetapi berpengaruh nyata terhadap komposisi nutrisi. Kandungan protein kasar tertinggi (27,04%) diamati pada 300 kg/ha, yang menunjukkan efektivitasnya dalam meningkatkan kualitas hijauan. Kandungan serat kasar menurun secara signifikan dengan meningkatnya kadar urea, sedangkan nilai TDN tertinggi (62,97%) tercatat sebesar 150 kg/ha. Berdasarkan temuan ini, 300 kg/ha direkomendasikan sebagai dosis optimal untuk meningkatkan protein kasar pada *Canavalia ensiformis*, mendukung penggunaannya sebagai hijauan berprotein tinggi dalam sistem peternakan tropis, terutama di lahan marginal.

(Kata kunci: biomassa, *Canavalia ensiformis*, protein kasar, nitrogen, urea)