

PENGARUH PEMBERIAN PUPUK NPK DAN UMUR POTONG TERHADAP
MORFOLOGI, PRODUKSI BIOMASSA, KANDUNGAN NUTRIEN, DAN ASAM
PRUSIK LEGUM OROK-OROK (*Crotalaria juncea* L.) SEBAGAI PAKAN
RUMINANSIA

INTISARI

Mayang Salsabillah Dewanti
21/490520/PPT/01204

Penelitian ini bertujuan untuk mengetahui pengaruh pemupukan NPK dan umur potong yang berbeda terhadap morfologi, produksi biomassa, kandungan nutrisi, dan kandungan asam prusik tanaman orok-orok (*Crotalaria juncea* L.) sebagai pakan ruminansia. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Faktorial dengan 2 faktor yaitu pupuk NPK (0 dan 50 kg/ha) dan umur potong (8, 10 dan 12 minggu). Kombinasi perlakuan diulang 3 kali sehingga terdapat 18 petak percobaan. Biji orok-orok ditanam pada petak lahan berukuran 1x1,5 m dengan jarak antar petak 50 cm, dan jarak tanam 10x30 cm. Variabel yang diamati antara lain kondisi agroklimat (suhu dan curah hujan), kondisi tanah (pH, C-organik, N-total, P-tersedia, K-tersedia, dan C/N), morfologi (tinggi tanaman, jumlah daun, panjang dan lebar daun, diameter batang, jumlah cabang), produksi biomassa (produksi segar dan bahan kering), kandungan nutrisi (bahan kering, bahan organik, protein kasar, serat kasar, dan lemak kasar), dan kandungan asam prusik. Data morfologi, kandungan nutrisi, dan kandungan asam prusik dianalisis menggunakan analisis variansi (ANOVA) dan jika terdapat perbedaan antar rerata dilanjutkan dengan Uji Jarak Berganda (Duncan's Multiple Range Test). Hasil analisis variansi menunjukkan bahwa pemberian pupuk NPK memberikan pengaruh yang tidak signifikan terhadap morfologi, produksi biomassa, kandungan nutrisi, dan kandungan asam prusik tanaman orok-orok. Umur potong memberikan pengaruh yang signifikan ($P < 0,05$) terhadap morfologi, produksi biomassa, dan kandungan nutrisi akan tetapi memberikan pengaruh yang tidak signifikan ($P > 0,05$) terhadap kandungan asam prusik pada tanaman orok-orok. Kesimpulan dari penelitian ini yaitu pemberian pupuk NPK dengan level 50 kg/ha tidak meningkatkan morfologi, produksi biomassa, dan kandungan nutrisi tanaman orok-orok, sedangkan umur potong yang semakin tua meningkatkan morfologi dan produksi biomassa, serta menurunkan kandungan nutrisi, akan tetapi tidak mempengaruhi kandungan asam prusik tanaman orok-orok. Tidak terdapat interaksi antara pemberian pupuk NPK dan umur potong terhadap morfologi, produksi biomassa, kandungan nutrisi, dan kandungan asam prusik tanaman orok-orok.

Kata kunci: *Crotalaria juncea* L., Pupuk NPK, Umur panen, Morfologi, Produksi biomassa, Kandungan nutrisi, dan Asam prusik.

THE EFFECT OF NPK FERTILIZER AND CUTTING AGE ON MORPHOLOGY,
BIOMASS PRODUCTION, NUTRIENT, AND PRUSIC ACID CONTENT OF
OROK-OROK (*Crotalaria juncea* L.) AS RUMINANT FEED

ABSTRACT

This study aimed to determine the effect of NPK fertilizer and cutting ages on morphology, biomass production, nutrient, and prussic acid content of orok-orok as ruminant feed. This study used a 2x3 factorial randomized block design (RBD) which the first factor was two levels of NPK fertilizer (P1= 0 kg/ha and P2= 50 kg/ha) and the second factor was cutting age (U1= 8 weeks, U2= 10 weeks, and U3= 12 weeks). All the treatment combinations were replicated 3 times. The seeds were planted on 1x1.5 m plots with the spacing of 10x30 cm. Variables observed in this study were agroclimatic conditions (temperature and precipitation), soil conditions (pH, c-organic, total N, P-available, K-available, and C/N ratio), morphology (plant height, number of leaves, length and width of leaves, stem diameter, and number of branches), biomass production (fresh production and dry matter production), nutrient content (dry matter, organic matter, crude protein, crude fiber, and crude fat), and prussic acid content. Morphology, biomass production, nutrient, and prucid acid content data were analyzed using analysis of variance (ANOVA) and continued with the Duncan Multiple Range Test (DMRT). The results of showed that the application of NPK fertilizer did not significantly affect the morphology, biomass production, nutrient content and prussic acid content of orok-orok. Cutting ages had significantly ($P<0.05$) affect the morphology, biomass production and nutrient content, but did not significantly affect the prussic acid content of orok-orok. Based on the results, it can be concluded that the application of NPK fertilizer at 50 kg/ha level did not increase the morphology, biomass production, nutrient content, and prussic acid content, while the older cutting age increased the morphology and biomass production, reduced the nutrient content, but did not affect the prussic acid content of orok-orok. There were no interaction between NPK fertilizer application and cutting age on morphology, biomass production, nutrient content, and prussic acid content of orok-orok plants.

Keywords: *Crotalaria juncea* L., NPK fertilizer, Cutting age, Morphology, Biomass production, Nutrient content, and Prussic acid contents.