

PENGARUH UMUR DAN TINGGI PEMOTONGAN TERHADAP MORFOLOGI,
PRODUKSI BIOMASSA, KANDUNGAN PROTEIN KASAR DAN ALKALOID
PADA PERTUMBUHAN KEMBALI TANAMAN OROK-OROK
(*Crotalaria juncea* L.)

INTISARI

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Penelitian bertujuan untuk mengetahui pengaruh umur dan tinggi pemotongan terhadap morfologi, produksi biomassa, kandungan protein kasar dan alkaloid pada pertumbuhan kembali (*regrowth* ke-1) tanaman orok-orok (*Crotalaria juncea* L.). Penelitian menggunakan rancangan acak lengkap faktorial 2 x 3 yang terdiri dari umur pemotongan pertama (6 dan 7 minggu) dan tinggi pemotongan (15, 30, 45 cm di atas tanah), masing-masing perlakuan diulang sebanyak 3 kali. Variabel yang diamati meliputi morfologi tanaman (jumlah daun, tinggi tanaman dan jumlah cabang), produksi biomassa (segar, BK, *leaf stem ratio* dan BO), kandungan PK dan alkaloid. Data penelitian dianalisis menggunakan *analysis of variance* (ANOVA) dan perbedaan antara rerata diuji dengan *Duncan's multiple range test* (DMRT). Hasil penelitian menunjukkan bahwa umur pemotongan 6 minggu memberikan hasil tertinggi ($P < 0,05$) pada jumlah daun (209 helai), tinggi tanaman (153,97 cm), produksi segar batang (10,90 ton/ha), daun (9,72 ton/ha) dan total (20,62 ton/ha), produksi BK total (4,55 ton/ha), dan produksi BO total (4,10 ton/ha). Tinggi pemotongan 45 cm memberikan hasil tertinggi ($P < 0,05$) pada jumlah daun (228 helai), jumlah cabang (14,63 cabang), produksi segar batang (13,24 ton/ha), daun (11,40 ton/ha) dan total (24,65 ton/ha), BK batang (2,65 ton/ha), BK daun (2,66 ton/ha), BK total (5,31 ton/ha), BO batang (2,46 ton/ha), BO daun (2,13 ton/ha) dan BO total (4,59 ton/ha). Disimpulkan bahwa umur pemotongan muda (6 minggu) menghasilkan lebih tinggi jumlah daun, tinggi tanaman, produksi segar, BK total dan BO total sedangkan tinggi pemotongan 45 cm menghasilkan lebih tinggi morfologi dan produksi biomassa. Umur dan tinggi pemotongan tidak mempengaruhi LSR, kandungan PK dan alkaloid. Interaksi terbaik pada jumlah daun dan produksi segar yang dipotong pada umur 6 minggu dan tinggi pemotongan 45 cm.

Kata kunci: *Crotalaria juncea*, Umur pemotongan, Tinggi pemotongan, *Regrowth*, Alkaloid

EFFECT OF CUTTING AGE AND HEIGHT ON MORPHOLOGY, BIOMASS
PRODUCTION, CRUDE PROTEIN CONTENT AND ALKALOID CONTENT ON
REGROWTH OF OROK-OROK (*Crotalaria Juncea* L.)

ABSTRACT

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The study aimed to determine the effect of cutting age and cutting height on morphology, biomass production, crude protein (CP) content and alkaloids content on 1st regrowth of orok-orok (*Crotalaria juncea* L.). The study used a 2 x 3 factorial complete randomized design consisting of the cutting age (6 and 7 weeks) and cutting height (15, 30, 45 cm above the ground), each treatment was replication 3 times. Variables observed included plant morphology (number of leaves, plant height and number of branches), biomass production (fresh, DM, leaf stem ratio and OM), CP and alkaloid content. The data were analyzed using analysis of variance (ANOVA) and differences between means were tested with Duncan's multiple range test (DMRT). The results showed that the age of 6 weeks had highest ($P < 0.05$) in the number of leaves (209 strands), plant height (153.97 cm), fresh stem production (10.90 tons/ha), leaves (9.72 tons/ha) and total (20.62 tons/ha), total DM production (4.55 tons/ha) and total OM production (4.10 tons/ha). Highest cutting height (45 cm) had highest ($P < 0.05$) in morphology such as number of leaves (227 strands), number of branches (14.63 branches), fresh stem production (13.24 tons/ha), leaves (11.40 tons/ha) and total (24.65 tons/ha), stem DM (2.65 tons/ha), leaf DM (2.66 tons/ha), total DM (5.31 tons/ha), stem OM (2.46 tons/ha), leaf OM (2.13 tons/ha) and total OM (4.59 tons/ha). It is concluded that early cutting (6 weeks) resulted in higher number of leaves, plant height, fresh production, total DM and total OM while cutting height of 45 cm resulted in higher morphology and biomass production. Age and cutting height did not affect LSR, CP and alkaloid content. The best interaction ($P < 0.05$) on leaf number and fresh production was cut at 6 weeks and 45 cm cutting height.

Keywords: *Crotalaria juncea*, Cutting age, Cutting height, Regrowth, Alkaloid