PENGARUH UMUR PEMOTONGAN DAN RATUN TERHADAP PERTUMBUHAN, PRODUKSI DAN KANDUNGAN NUTRIEN SORGUM BROWN MIDRIB RESISTANCE (BMR)
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# PENGARUH UMUR PEMOTONGAN DAN RATUN TERHADAP PERTUMBUHAN, PRODUKSI DAN KANDUNGAN NUTRIEN SORGUM *BROWN MIDRIB RESISTANCE* (BMR)

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## INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh umur pemotongan dan ratun terhadap pertumbuhan, produksi dan kandungan nutrien sorgum *brown midrib resistance* (BMR). Penelitian ini menggunakan rancangan *split plot* dengan ratun (ratun 1 dan 2) sebagai plot utama dan sebagai umur pemotongan (6 dan 8 minggu) sub plot. Kombinasi perlakuan ini diulang 3 kali. Biji sorgum disemaikan selama 12 hari sebelum ditanam dan ditanam dengan jarak tanam sorgum 75 x 25 cm. Tanaman sorgum yang digunakan merupakan tanaman hasil ratun. Variabel yang diamati adalah pertumbuhan (tinggi tanaman, panjang tanaman, lebar daun), produksi (bahan kering dan bahan organik), kandungan bahan kering (BK), bahan organik (BO), protein kasar (PK), lemak kasar (LK), serat kasar (SK), bahan ekstrak tanpa nitrogen (BETN) dan *total digestible nutrients* (TDN). Data penelitian dianalisis dengan analisis variansi mengikuti *split-plot design*, uji perbedaan antar rerata dilakukan dengan Duncan's Multiple Range Test (DMRT). Hasil penelitian menunjukkan bahwa umur pemotongan berpengaruh nyata ($P<0,05$) terhadap tinggi tanaman, panjang tanaman, lebar daun, kandungan LK, SK, PK dan TDN. Tinggi tanaman pada umur pemotongan 8 minggu (137,17 cm) lebih tinggi ($P<0,05$) dibandingkan umur pemotongan 6 minggu (112,5 cm). Kandungan PK pada umur pemotongan 6 minggu (11,77%) lebih tinggi ($P<0,05$) dibandingkan umur pemotongan 8 minggu (9,93%). Perlakuan ratun berpengaruh nyata ($P<0,05$) pada tinggi tanaman, panjang tanaman, lebar daun, produksi BK, produksi BO dan kandungan SK. Produksi BK pada ratun pertama (4,48 ton/ha) lebih tinggi ($P<0,05$) dibandingkan ratun kedua (0,78 ton/ha). Berdasarkan penelitian dapat disimpulkan bahwa semakin tua umur tanaman maka pertumbuhan dan kandungan serat kasarnya lebih tinggi, namun kandungan PK dan TDN lebih rendah. Tanaman ratun pertama memiliki tinggi tanaman, panjang tanaman, lebar daun, produksi BK, produksi BO dan kandungan SK yang lebih tinggi dibandingkan ratun kedua.

Kata kunci : Sorgum BMR, Umur pemotongan, Ratun, Produksi, Pertumbuhan, Kandungan nutrien.

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# THE EFFECT OF HARVESTING TIME AND RATOON ON GROWTH, PRODUCTION, AND NUTRIENT CONTENT OF SORGHUM BROWN MIDRIB RESISTANCE (BMR)

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## ABSTRACT

The purpose of this study was to determine the effect of harvesting time and ratoon on growth, production, and nutrients content of sorghum brown midrib resistance (BMR). The design of the study was split-plot design with ratoon (ratoon 1 and 2) as main plots and harvesting time (6 and 8 week) as sub plots. The combination of this treatment was repeated three times. The seed was germinated for 12 days prior to be planted with planting space for sorghum with the size of 75 x 25 cm. Sorghum that was used was the result from ratoon. The variables observed were growth (plant height, plant length, leaf width), production (dry matter and organic matter), dry matter (DM), organic matter (OM), crude protein (CP), ether extract (EE), crude fiber (CF), nitrogen free extract (NFE) and total digestible nutrients (TDN) content. Data obtained were statistically analyzed using analysis of variance followed by the split-plot design and continued with Duncan's new multiple range test for any average difference detected. The result showed that harvesting time had significantly effects ($P<0.05$) on plant height, plant length, leaf width, EE, CF, CP and TDN. Plant height at 8 weeks (137.17 cm) was higher ($P<0.05$) than 6 weeks harvesting time (112.5 cm). Crude protein content at 6 week harvesting time (11.77%) was higher ($P<0.05$) than 8 week harvesting time (9.93%). Ratoon significantly ($P<0.05$) in plant length, leaf width, production (dry matter and organic matter), and crude fiber (CF) content. Dry matter production at first ratoon (4.48 ton/ha) was higher ($P<0.05$) than that second ratoon (0.78 ton/ha). Based on the study it can be concluded that the the longer the harvesting time would increase the growth and crude fiber content, however crude protein and TDN content would decrease. First ratoon had plant height, plant length, leaf width, production (dry matter and organic matter), and crude fiber (CF) content higher than that second ratoon.

Key words : Sorghum BMR, Harvesting time, Ratoon, Production, Growth, Nutrient content