

**PERTUMBUHAN DAN KUALITAS NUTRISI TANAMAN ALFALFA
(*Medicago sativa* L.) DENGAN LAMA PENYINARAN DAN JENIS PUPUK
YANG BERBEDA**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pertumbuhan dan kualitas nutrisi tanaman alfalfa (*Medicago sativa* L) dengan lama penyinaran dan jenis pupuk yang berbeda. Parameter yang diamati meliputi tinggi, jumlah cabang, berat segar, berat kering, bahan organik dan protein kasar. Data yang diperoleh diuji statistik dengan analisis variansi dan apabila menunjukkan perbedaan dilanjutkan dengan uji beda *Duncan's New Multiple Range Test* (DMRT). Faktor pertama adalah lama penyinaran terdiri dari 3 tingkat, yaitu C0 = penyinaran 12 jam sinar matahari, C1 = penyinaran 16 jam (12 jam matahari + 4 jam lampu neon), dan C2 = penyinaran 20 jam (12 jam matahari + 8 jam neon). Faktor kedua adalah pupuk terdiri dari 3 macam, yaitu D0 = tanah regosol 50% + pupuk kandang 50% + dolomit 180 gram, D1 = tanah regosol 50% + hijau 50% + dolomit 180 gram, dan D2 = tanah regosol 50% + pupuk kandang 25% + pupuk hijau 25% + dolomit 180 gram. Kedua faktor tersebut membentuk 9 kombinasi perlakuan dengan 6 kali ulangan, sehingga diperoleh 54 satuan percobaan. Hasil penelitian menunjukkan perlakuan pupuk berpengaruh secara nyata ($P < 0,05$) terhadap tinggi, jumlah cabang, berat segar, berat kering, dan kandungan protein. Perlakuan lama pencahayaan berpengaruh secara nyata ($P < 0,05$) terhadap berat segar dan berat kering. Interaksi lama pencahayaan dan pupuk berpengaruh secara nyata ($P < 0,05$) terhadap tinggi, produksi segar, produksi kering, bahan organik, dan protein kasar. Kesimpulan penelitian ini, perlakuan pupuk D1 dan lama penyinaran 16 jam memiliki pengaruh paling baik untuk meningkatkan produksi berat segar, produksi berat kering, dan bahan organik tanaman alfalfa.

Kata Kunci : Alfalfa, Pupuk kandang, Lama penyinaran

GROWTH AND NUTRITION QUALITY OF ALFALFA (*Medicago sativa* L.) PLANT WITH LIGHTING DURATION AND DIFFERENT TYPES OF FERTILIZER

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ABSTRACT

This study aims to determine the growth and nutritional quality of alfalfa plants (*Medicago sativa* L) with different irradiation times and types of fertilizers. The parameters observed included height, number of branches, fresh weight, dry weight, organic matter and crude protein. The data obtained were tested statistically by analysis of variance and when showing differences continued with Duncan's New Multiple Range Test (DMRT). The first factor is the duration of irradiation consisting of 3 levels, namely C0 = irradiation of 12 hours of sunshine, C1 = irradiation of 16 hours (12 hours of sun + 4 hours of neon lights), and C2 = irradiation of 20 hours (12 hours of sun + 8 hours of neon) . The second factor is the fertilizer consists of 3 types, namely D0 = 50% regosol soil + 50% manure + 180 gram dolomite, D1 = 50% regosol soil + 50% green + 180 gram dolomite, and D2 = 50% regosol soil + fertilizer 25% cage + 25% green manure + 180 gram dolomite. Both of these factors formed 9 combination treatments with 6 replications, resulting in 54 experimental units. The results showed that fertilizer treatment had a significant effect ($P < 0.05$) on height, number of branches, fresh weight, dry weight, and protein content. The long treatment time was significantly affected ($P < 0.05$) on fresh weight and dry weight. The duration of lighting and fertilizer interaction significantly ($P < 0.05$) on height, fresh production, dry production, organic matter, and crude protein. The conclusion of this study, the treatment of D1 fertilizer and irradiation time of 16 hours had the best influence to increase fresh weight production, production of dry weight, and organic matter of alfalfa plants.

Keywords: Alfalfa, manure, lighting duration