



## **PENGARUH MATERIAL TANAM TERHADAP PRODUKTIVITAS ALFALFA TROPIK (*Medicago sativa*)**

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### **INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh material tanam terhadap produktivitas alfalfa tropik (*Medicago sativa*). Penelitian dilaksanakan selama 3 bulan di lahan Laboratorium Hijauan Makanan Ternak dan Pastura, Fakultas Peternakan Universitas Gadjah Mada. Perlakuan material tanam yaitu penanaman dengan biji dan semaian. Penanaman dengan biji dilakukan secara langsung ke lahan. Perlakuan semai ditanam terlebih dahulu sampai berumur 2 bulan pada media pot persegi panjang dengan ukuran 20 x 7 x 10 cm<sup>2</sup>. Tanaman dapat dipindahkan ke lahan setelah umur biji yang ditanam sudah berumur 2 bulan. Masing-masing perlakuan ditanam pada plot seluas 90x120 m<sup>2</sup> dengan jarak tanam 50 x 30 cm, tiap plot terdiri dari 12 tanaman, tiap perlakuan dilakukan 3 ulangan. Variabel yang diamati yaitu pertumbuhan tanaman berupa tinggi tanaman, jumlah daun, dan jumlah cabang, kandungan nutrisi tanaman berupa bahan kering (BK), bahan organik (BO), dan protein kasar (PK), serta produktivitas tanaman berupa produksi segar, produksi bahan kering (BK), dan produksi bahan organik (BO). Hasil penelitian menunjukkan bahwa pertumbuhan tanaman alfalfa menggunakan biji yaitu tinggi tanaman, jumlah daun, dan jumlah cabang berturut-turut 40,17±9,81 cm; 39,17±15,85 buah dan 2,56±1,29 buah sedangkan pertumbuhan tanaman alfalfa menggunakan semaian yaitu 41,06±14,74 cm; 51,11±18,69 buah; dan 3,39±0,91 buah. Hasil penelitian menunjukkan bahwa kandungan nutrisi tanaman alfalfa menggunakan biji yaitu kandungan bahan kering, bahan organik, dan protein kasar berturut-turut 26,95±4,02; 92,44±0,51; dan 20,24±4,04 sedangkan kandungan nutrisi tanaman alfalfa menggunakan semaian yaitu 23,88±8,94; 92,49±0,51; dan 18,83±1,26. Hasil penelitian menunjukkan bahwa produktivitas tanaman alfalfa



menggunakan biji yaitu produksi segar, produksi bahan kering, dan produksi bahan organik berturut-turut  $25 \pm 0,015$ ;  $36 \pm 0,026$ ;  $19 \pm 0,003$ ; dan  $80 \pm 0,074$ ; sedangkan produktivitas tanaman alfalfa menggunakan semaian yaitu  $108 \pm 0,045$ ;  $48 \pm 0,016$ ;  $35 \pm 0,001$ ; dan  $89 \pm 0,026$ . Data yang diperoleh selama penelitian di analisis dengan *T-test*. Berdasarkan hasil penelitian dapat disimpulkan bahwa perlakuan dengan biji disemaikan terlebih dahulu memiliki pertumbuhan dan produksi yang lebih tinggi dibanding biji yang ditanam secara langsung dilahan, namun kandungan nutrisi (bahan kering, bahan organik, dan protein kasar) tidak memberikan pengaruh signifikan.

Kata kunci: Kandungan nutrisi, Material tanam, *Medicago sativa*, Pertumbuhan tanaman, Produksi.



## **THE EFFECT OF PLANTING MATERIALS ON THE PRODUCTIVITY OF ALFALFA TROPIC (*Medicago Sativa*)**

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### **ABSTRACT**

This study aimed to determine the effect of planting materials on the productivity of alfalfa tropic (*Medicago sativa*). The research was carried out for 3 months at the Forages and Pasture Science Laboratory, Faculty of Animal Science, Gadjah Mada University. The treatment was done in 2 ways, planting with bare seeds and sown seeds. Planting with seeds is done directly into the field. Treatment sown seeds were planted first until they were 2 months old in rectangular pot media with a size of 20 x 7 x 10 cm<sup>2</sup>. Plants can be transferred to the field after the age of the seeds planted are 2 months old. Each treatment was planted in beds with an area of 90 x 120 m<sup>2</sup> with a spacing of 50 x 30 cm, each bed consists of 12 plants, each treatment was carried out with 3 replications. The observed variables were plant height, leaves, number of branches, plant nutrient content in the form of dry matter (DM), organic matter (OM), and crude protein (CP), as well as plant productivity in the form of fresh production, dry matter production (DM), and organic matter production (OM). The results showed that the growth of alfalfa plants using seeds were plant height, number of leaves, and number of branches, respectively 40.17±9.81 cm; 39.17±15.85 fruit and 2.56±1.29 fruit while the growth of alfalfa plants using seedlings was 41.06±14.74 cm; 51.11±18.69 pieces; and 3.39±0.91 pieces. The results showed that the nutrient content of alfalfa plants using seeds, namely the content of dry matter, organic matter, and crude protein, respectively 26.95±4.02; 92.44±0.51; and 20.24±4.04 while the nutrient content of alfalfa plants using seedlings was 23.88±8.94; 92.49±0.51; and 18.83±1.26. The results showed that the productivity of alfalfa plants using seeds were fresh production, dry matter production, and organic matter production, respectively 25±0.015; 36±0.026; 19±0.003; and 80±0.074; while the productivity of alfalfa plants using seedlings



is  $108 \pm 0.045$ ;  $48 \pm 0.016$ ;  $35 \pm 0.001$ ; and  $89 \pm 0.026$ . The data obtained during the study were analyzed by T-test. In conclusion, it was found that treatment with sown seeds had higher growth and production than bare seeds that were planted directly in the field, but it did not have a significant effect.

Keywords: Planting material, *Medicago sativa*, Nutrient content, Plant growth, Production,