

PENGARUH POLA TANAM TERHADAP PERTUMBUHAN, PRODUKSI BIOMASSA DAN KANDUNGAN NUTRIEN TANAMAN JAGUNG
(*Zea mays*)

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INTISARI

Penelitian ini bertujuan untuk mengetahui pertumbuhan, produksi biomassa, dan kandungan nutrisi tanaman jagung (*Zea mays*) dengan perlakuan pola tanam yang berbeda. Penelitian ini dilakukan selama 10 minggu di lahan percobaan PT. Agromix Lestari di Grogolan, Ngemplak, Sleman, Daerah Istimewa Yogyakarta. Luas lahan penelitian yaitu 250 m². Penelitian menggunakan bibit tanaman jagung hibrida yang ditanam dengan pola tanam tunggal dengan jarak tanam 70 x 20 cm dan ganda dengan jarak tanam 90 x 20 cm. Penanaman dilakukan di petak berukuran 2 x 3 m dengan jarak antar petak 0,5 m. Tanaman jagung (*Zea mays*) dan dipanen pada umur 70 hari setelah tanam. Variabel yang diamati yaitu tinggi tanaman (cm), panjang tanaman (cm), panjang daun (cm), lebar daun (cm), diameter batang (mm), jumlah daun (helai), bahan kering (BK), bahan organik (BO), protein kasar (PK), produksi segar (kg), produksi BK, produksi BO dan produksi PK. Data yang diperoleh kemudian dianalisis dengan *t-test*. Analisis statistik dilakukan dengan bantuan *software* personal komputer *Statistical Product and Service* (SPSS). Hasil penelitian menunjukkan bahwa terdapat perbedaan nyata ($P < 0,05$) pada tinggi tanaman, panjang tanaman, lebar daun, panjang daun dan diameter batang. Namun menunjukkan perbedaan tidak nyata ($P > 0,05$) pada jumlah daun. Produksi biomassa segar dan produksi biomassa PK menunjukkan perbedaan nyata ($P < 0,05$) sedangkan pada produksi biomassa BK dan produksi biomassa BO menunjukkan perbedaan tidak nyata ($P > 0,05$). Hasil kandungan nutrisi meliputi BK, BO dan PK menunjukkan perbedaan yang tidak nyata ($P > 0,05$). Berdasarkan penelitian, dapat disimpulkan bahwa pola tanam yang terbaik digunakan pada tanaman jagung yaitu pola tanam tunggal.

Kata kunci: Kandungan nutrisi, Pertumbuhan, Pola tanam, Produksi biomassa, *Zea mays*

**THE EFFECT OF PLANTING PATTERNS ON GROWTH, BIOMASS
PRODUCTION AND NUTRIENT CONTENT OF CORN PLANTS
(*Zea mays*)**

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ABSTRACT

This research aimed to determine the growth, biomass production, and nutrient content of maize (*Zea mays*) with different cropping patterns. This research was conducted for 10 weeks in the experimental field of PT. Agromix Lestari in Grogolan, Ngemplak, Sleman, Special Region of Yogyakarta. The research area is 250 m². The study used hybrid maize seeds, which were planted with a single cropping pattern with a spacing of 70 x 20 cm and doubles with a spacing of 90 x 20 cm. Planting was carried out in plots measuring 2 x 3 m with a distance between plots of 0.5 m. Corn (*Zea mays*) and harvested at the age of 70 days after planting. The observed variables were plant height (cm), plant length (cm), leaf length (cm), leaf width (cm), stem diameter (mm), number of leaves (strands), dry matter (DM), organic matter (OM), crude protein (CP), fresh biomass production (kg) and biomass productions of DM, OM, and CP. The obtained data were then analyzed by t-test. Statistical analysis was carried out with the help of Statistical Product and Service (SPSS) personal computer software. The results showed that there were significant differences ($P < 0.05$) in plant height, plant length, leaf width and leaf length. However, it showed no significant difference ($P > 0.05$) in the number of leaves. Fresh biomass production and CP biomass production showed significant differences ($P < 0.05$) but showed no significant differences ($P > 0.05$) in DM production and OM production. The results of nutrient content including DM, OM, and CP showed no significant difference ($P > 0.05$). Based on the research, it can be concluded that the best cropping pattern used for maize is the single cropping pattern.

Keywords: Biomass production, Growth, Nutrient content, Planting pattern, *Zea mays*