

ABSTRAK

THAUSY JULIA PUTRI. 2023. Hubungan Produktivitas Tanaman Jagung dengan Karakteristik Tanah dan Kelembapan Relatif di Kecamatan Cibugel Kabupaten Sumedang. Dibimbing oleh Betty Natalie Fitriatin dan Marendra Ishak Sonjaya Sule.

Jagung merupakan tanaman strategis utama kedua dalam penyediaan tanaman pangan Indonesia, tetapi produktivitas tanaman jagung di Indonesia perlu ditingkatkan berdasarkan potensi hasil dan permintaan pasar. Tantangan peningkatan produktivitas tanaman jagung dapat diatasi dengan memahami informasi mengenai karakteristik tanah dan kelembapan relatif di lahan pertanaman jagung. Penelitian bertujuan untuk mengetahui hubungan dari karakteristik tanah dan kelembapan relatif terhadap produktivitas tanaman jagung. Penelitian dilaksanakan di Kecamatan Cibugel, Kabupaten Sumedang. Penelitian menggunakan metode deskriptif survei dan komparatif pada 18 sampel tanah. Wilayah pertanaman jagung didapatkan atas analisis dan tumpang susun dari satuan lahan berupa; kemiringan, elevasi, iklim, dan area produksi jagung. Lahan pertanaman jagung berada pada ketinggian 500 – 1000 mdpl serta kemiringan 10 – 30%. Analisis dengan korelasi dan regresi linear berganda metode *stepwise* digunakan pada parameter karakteristik tanah (populasi BPF, populasi fungi mikoriza arbuskular, C-organik, pH, P-tersedia, KTK, tekstur tanah) dan kelembapan relatif. Hasil korelasi menyatakan hubungan keeratatan antara kelembapan relatif dan produktivitas jagung dengan nilai $r = -0,78$ sedangkan parameter lain memiliki korelasi yang lemah. Uji lanjut *Stepwise* menunjukkan kelembapan relatif dan BPF berkontribusi 68,8% ($R^2_{Adj} = 0,688$) dengan taraf nyata 5% sedangkan parameter lainnya tidak memiliki kontribusi signifikan. Kenaikan pada kelembapan relatif menurunkan produktivitas sedangkan kenaikan pada populasi BPF meningkatkan produktivitas ($Y = 149424,8968 + 0,0001BPF - 1793,4206$ Kelembapan relatif).

Kata kunci: jagung, kelembapan relatif, pelarut fosfat, produktivitas,

ABSTRACT

THAUSY JULIA PUTRI. 2023. Correlation of Maize Productivity with Soil Characteristics and Relative Humidity in Kecamatan Cibugel, Kabupaten Sumedang. Supervised by Betty Natalie Fitriatin and Marendra Ishak Sonjaya Sule.

Maize holds significant importance as a strategic food crop in Indonesia. However, its current productivity needs improvement, considering both its potential yield capacity and the market demand. The enhancement of maize productivity can be achieved by effectively comprehending the information pertaining to soil characteristics and relative humidity in maize cultivation areas. The aim of this study was to investigate the correlation of soil characteristics and relative humidity and their combined effects on maize productivity. The research was conducted in Kecamatan Cibugel, Kabupaten Sumedang. The study used descriptive surveys and comparative methods on 18 soil samples. The maize planting area was obtained based on the analysis and overlapping of each land unit in the form of; slope, altitude, climate, and maize production area. Maize fields are at an altitude of 500-1000 masl and a slope of 10-30%. The analytical method used is stepwise multiple linear regression and correlation on soil characteristic (PSB population, arbuscular mycorrhizal fungi, C-organic, pH, available-P, CEC, soil texture) and relative humidity. The results showed a significantly correlation between humidity and maize productivity with a value of $r = -0.78$. Further test with the Stepwise showed humidity and PSB contributed 68.8% ($R^2 \text{ Adj} = 0.688$) with a significant level of 5%, while other parameters do not significantly contributed to the observed effects on maize productivity. An increase in relative humidity can reduce the productivity, while an increase in PSB population can increase the productivity of maize. ($Y = 149424,8968 + 0,0001 \text{PSB} - 1793,4206 \text{Relative Humidity}$).

Keywords: maize, phosphate solubilizer, relative humidity, yield