RINGKASAN

Penelitian ini dilaksanakan di lahan percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jalan Karya Wisata, Gdg. Johor, Kecamatan Medan Johor, Kota Medan, Provinsi Sumatera Utara dengan ketinggian Tempat ± 25 meter dpl, dengan topografi datar. Penelitian ini dimulai pada bulan November 2021 sampai dengan bulan Maret 2022. Penelitian ini bertujuan untuk mengetahui respon pertumbuhan dan produksi tanaman jagung manis (*Zea mays* L. *saccharata*.) Terhadap pemberian beberapa bahan organik dan pupuk hayati di tanah inceptisol.

Penelitian ini dilaksanakan dengan menggunakan Rancangan acak kelompok (RAK) faktorial dengan 2 faktor perlakuan yaitu : Faktor I : Pemberian Beberapa Bahan Organik (K) terdiri 3 taraf yaitu: K_0= Kontrol (tanpa diberikan), K_1 = Jerami Padi (Dosis anjuran rekomendasi dari Deptan (2002) adalah 6 ton/ha) dan K_2 = Pupuk Kotoran Ayam (Dosis anjuran rekomendasi dari Deptan (2002) adalah 6 ton/ha). Faktor II : Pemberian Pupuk Hayati (E) terdiri 3 taraf yaitu : E_0 = Kontrol (tanpa diberikan), E_1 = Pemberian Pupuk OrganikSayur,buah dan Bonggol pisang dan E_2 = Pemberian Pupuk Hayati. Parameter yang diamati adalah tinggi tanaman, jumlah daun, diameter batang, panjang tongkol, diameter tongkol, bobot tongkol per tanaman, dan inventarisasi penyakit bulai.

Hasil penelitian menunjukkan bahwa pemberian bahan organik berpengaruh meningkatkan pertumbuhan dan produksi tanaman jagung manis. Bahan organik jerami padi menghasilkan peningkatan pertumbuhan dan produksi tanaman jagung tertinggi pada seluruh parameter yang diamati. Pemberian pupuk hayati berpengaruh dalam meningkatkan tinggi tanaman, jumlah daun, diameter batang, panjang tongkol dan bobot tongkol per tanaman, namun berpengaruh tidak nyata terhadap diameter tongkol dan jumlah baris biji per tongkol. Interaksi antara bahan organik dengan pupuk hayati berpengaruh dalam meningkatkan tinggi tanaman, jumlah daun, diameter batang, panjang tongkol dan bobot tongkol per tanaman, namun berpengaruh tidak nyata terhadap diameter tongkol dan jumlah baris biji per tongkol. Kombinasi kompos jerami dengan pupuk hayati menghasilkan peningkatan tertinggi pada seluh parameter yang diamati.

Kata Kunci : Tanaman Jagung, Bahan Organik, Pupuk Hayati

SUMMARY

This research was conducted in the experimental field of the Faculty of Agriculture, Islamic University of North Sumatra, Jalan Karya Wisata, Gdg. Johor, Medan District Johor, Medan City, North Sumatra Province with an altitude of ± 25 meters above sea level, with a flat topography. This study began in November 2021 until March 2022. This study aimed to determine the response of growth and production of sweet corn (Zea mays L. saccharata.) to the application

This research was carried out using a factorial randomized block design (RAK) with 2 treatment factors, namely: Factor I: Provision of Some Organic Materials (K) consisting of 3 levels, namely: K0 = Control (without being given), K1 = Rice Straw (Recommended dosage recommendations from Ministry of Agriculture (2002) is 6 tons/ha) and K2 = Chicken Manure (The recommended dose recommended by the Ministry of Agriculture (2002) is 6 tons/ha). Factor II: Application of Biological Fertilizer (E) consists of 3 levels, namely: E0 = Control (without application), E1 = Application of Organic Fertilizers for vegetables, fruit and banana weevil and E2 = Application of Biological Fertilizer. Parameters observed were plant height, number of leaves, stem diameter, length of ear, diameter of ear, weight of ear per plant, and inventory of downy mildew.

The results showed that the application of organic matter had an effect on increasing the growth and production of sweet corn plants. Rice straw organic matter resulted in the highest increase in growth and production of maize for all parameters observed. The application of biofertilizers had an effect on increasing plant height, number of leaves, stem diameter, length of the ear and weight of the ear per plant, but had no significant effect on the diameter of the ear and the number of rows of seeds per ear. The interaction between organic matter and biofertilizers had an effect on increasing plant height, number of leaves, stem diameter, length of the ear and weight of the ear per plant, but had no significant effect on the diameter of the ear and the number of rows of seeds per ear. Combination of straw compost with biofertilizer resulted in the highest increase in all observed parameters

Keywords: *Corn Plants, Organic Materials, Biological Fertilizer*