

RINGKASAN

Penelitian ini dilaksanakan di lahan Percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jln. Karya Wisata, Kecamatan Medan Johor, Kota Medan, Provinsi Sumatera Utara, Ketinggian tempat \pm 25m dpl, dengan topografi datar dengan jenis tanah ordo Inceptisol. Penelitian ini dimulai pada bulan Juni sampai dengan September 2024.

Penelitian ini dibimbing oleh Ibu Rahmi Dwi Handayani Rambe, S.P., M.P. sebagai Ketua Pembimbing dan Bapak Ir. Indra Gunawan, M.P. selaku Anggota Komisi Pembimbing. Penelitian ini bertujuan untuk mengetahui pengaruh kompos jerami padi terhadap pertumbuhan dan produksi tanaman jagung manis. Untuk mengetahui pengaruh pupuk asap cair terhadap pertumbuhan dan produksi tanaman jagung manis. Untuk mengetahui pengaruh interaksi kompos jerami padi dan pupuk asap cair terhadap pertumbuhan dan produksi tanaman jagung manis. Penelitian menggunakan Rancangan Acak Kelompok (RAK) Faktorial dua faktor perlakuan yang disusun dalam tiga ulangan. Faktor pertama yaitu kompos jerami padi (J) yang terdiri dari empat taraf, yakni: J_0 = (kontrol/tanpa kompos jerami padi); J_1 = (kompos jerami padi 2 kg/plot); J_2 = (kompos jerami padi 4 kg/plot); J_3 = (kompos jerami padi 6 kg/plot). Faktor kedua yaitu pupuk asap cair (A) yang terdiri dari empat taraf, yakni: A_0 = (kontrol/tanpa pupuk asap cair); A_1 = (pupuk asap cair 10 ml/l air); A_2 = (pupuk asap cair 20 ml/l air); A_3 = (pupuk asap cair 30 ml/l air). Variabel pengamatan yang terdiri dari tinggi tanaman, jumlah daun, diameter batang, bobot tongkol dengan kelobot per tanaman, bobot tongkol dengan kelobot per plot dan produksi per hektar.

Berdasarkan hasil analisis menunjukkan bahwa pemberian kompos jerami padi berpengaruh nyata terhadap pertumbuhan tinggi tanaman, jumlah daun, diameter batang, dan bobot tongkol dengan kelobot per tanaman. Namun, tidak berpengaruh terhadap bobot tongkol dengan kelobot per plot dan produksi per hektar. Perlakuan terbaik terdapat pada J_3 (kompos jerami padi 6 kg/plot). Pupuk asap cair hanya berpengaruh terhadap jumlah daun dan diameter batang, tetapi tidak berpengaruh terhadap pertumbuhan tinggi tanaman, bobot tongkol dengan kelobot per tanaman, bobot tongkol dengan kelobot per plot, maupun produksi per hektar. Perlakuan terbaik terdapat pada A_3 (pupuk asap cair 30 ml/l air). Interaksi antara pemberian kompos jerami padi dan pupuk asap cair hanya berpengaruh terhadap diameter batang. Namun, tidak berpengaruh terhadap tinggi tanaman, jumlah daun, bobot tongkol dengan kelobot per tanaman, bobot tongkol dengan kelobot per plot, maupun produksi per hektar. Perlakuan terbaik terdapat pada J_3A_3 (kompos jerami padi 6 kg/plot dengan pupuk asap cair 30 ml/l air).

Kata Kunci : Tanaman Jagung Manis, Kompos Jerami Padi, Pupuk Asap Cair, Pertumbuhan dan Produksi.

SUMMARY

This research was conducted at the Experimental Field of the Faculty of Agriculture, Islamic University of North Sumatra, located on Jln. Karya Wisata, Medan Johor District, Medan City, North Sumatra Province, at an elevation of approximately 25 meters above sea level, with a flat topography and Inceptisol soil type. The study was carried out from June to September 2024.

This research was supervised by Mrs. Rahmi Dwi Handayani Rambe, S.P., M.P. as the main supervisor and Mr. Ir. Indra Gunawan, M.P. as a member of the advisory committee. The aim of this research is to determine the effect of rice straw compost on the growth and yield of sweet corn, to assess the impact of liquid smoke fertilizer on the growth and yield of sweet corn, and to evaluate the interaction between rice straw compost and liquid smoke fertilizer on the growth and yield of sweet corn. The study employed a Factorial Randomized Block Design (RBD) with two treatment factors arranged in three replications. The first factor was rice straw compost (J), which consisted of four levels: J_0 = (control/no rice straw compost); J_1 = (rice straw compost 2 kg/plot); J_2 = (rice straw compost 4 kg/plot); J_3 = (rice straw compost 6 kg/plot). The second factor was liquid smoke fertilizer (A), which also consisted of four levels: A_0 = (control/no liquid smoke fertilizer); A_1 = (liquid smoke fertilizer 10 ml/l of water); A_2 = (liquid smoke fertilizer 20 ml/l of water); A_3 = (liquid smoke fertilizer 30 ml/l of water). The observed variables included plant height, number of leaves, stem diameter, cob weight with husk per plant, cob weight with husk per plot, and yield per hectare.

Based on the analysis results, it was found that the application of rice straw compost significantly affected plant height, number of leaves, stem diameter, and cob weight with husk per plant. However, it did not affect cob weight with husk per plot or yield per hectare. The best treatment was found in J_3 (rice straw compost 6 kg/plot). Liquid smoke fertilizer only influenced the number of leaves and stem diameter, but had no effect on plant height, cob weight with husk per plant, cob weight with husk per plot, or yield per hectare. The best treatment was found in A_3 (liquid smoke fertilizer 30 ml/l of water). The interaction between rice straw compost and liquid smoke fertilizer only affected stem diameter, but had no effect on plant height, number of leaves, cob weight with husk per plant, cob weight with husk per plot, or yield per hectare. The best treatment was found in J_3A_3 (rice straw compost 6 kg/plot with liquid smoke fertilizer 30 ml/l of water).

Keywords: *Sweet Corn Plants, Rice Straw Compost, Liquid Smoke Fertilizer, Growth, and Production.*