RINGKASAN

Peningkatan produksi jagung dapat ditingkatkan dengan memperbaiki kondisi tanah. Perbaikan kondisi tanah ini dapat di lakukan dengan pemberian kompos jerami padi dan pupuk KCL. Kompos jerami diharapkan untuk perbaikan struktur tanah, sedangkan pupuk KCl diharapkan untuk menambah hara K.

Penelitian ini bertujuan untuk mengetahui respons pupuk kompos jerami padi dan pupuk KCl terhadap pertumbuhan dan produksi tanaman jagung manis *(Zea mays sacharata).* Penelitian ini dilakukan di Kebun Percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jalan Karya Wisata, Kelurahan Gedung Johor, Kecamatan Medan Johor, Kotamadya Medan, Provinsi Sumatera Utara pada ketinggian tempat ± 25 mdpl. Penelitian dilaksanakan pada Febuari 2019 sampai dengan Mei 2019.

Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Faktorial dengan dua faktor yaitu Faktor Pertama adalah penggunaan Pupuk Kompos Jerami Padi (J) yang terdiri dari 4 taraf, yaitu : J_0 = Kontrol(Tidak di beri kompos jerami); J_1 = 10 ton/ha (2,25kg/plot); J_2 = 20 ton/ha (4,5kg/plot); J_3 = 30 ton/ha (6,75kg/plot). Faktor kedua adalah pemberian pupuk KCL (K) yang terdiri dari 3 taraf, yaitu : K_0 = Kontrol (Tidak di beri pupuk KCL); K_1 = 50 kg/ha (11,25 g/plot) dan K_2 = 100 kg/ha (22,50g/plot). Serta ulangan 3 kali. Parameter yang diamati tinggi tanaman (cm), jumlah daun (helai), diameter batang (mm), pPanjang buah jagung (cm), diameter buah (mm), bobot buah per tanaman Sampel (g), bobot buah per plot (kg) dan jumlah biji per tongkol (biji).

Hasil Penelitian menunjukkan bahwa pemberian kompos jerami padi berpengaruh nyata terhadap tinggi tanaman, jumlah daun, diameter batang, panjang buah, diameter buah, bobot buah pertanaman dan bobot buah per plot, namun tidak berpengaruh nyata terhadap jumlai biji pertanaman. Dosis pemberian kompos jerami padi tertinggi pada dosis 6,75 kg/plot (30 ton/ha). Pemberian pupuk KCl berpengaruh nyata terhadap tinggi tanaman, jumlah daun, diameter batang, panjang buah, diameter buah, bobot buah pertanaman dan bobot buah per plot, namun tidak berpengaruh nyata terhadap jumlai biji pertanaman. Pemberian pupuk KCl terbaik diperoleh pada dosis 22,5 g/plot (100kg/ha). Interaksi kompos jerami padi dan pupuk KCl berpengaruh tidak nyata terhadap tinggi tanaman, jumlah daun, diameter batang, panjang buah, diameter buah, bobot buah pertanaman dan jumlai biji pertanaman, tetapi bobot buah per plot berpengaruh nyata. Perlakuan terbaik pada J3K1 (6,75 kg kompos dan 11,25 g pupuk KCl /plot) yaitu 4,23 kg, dan terendah pada perlakuan J0K0 (tanpa kompos dan pupuk KCl) yaitu 2,40 kg

Kata Kunci : Kompos jerami padi, pupuk KCl, pertumbuhan dan produksi tanaman jagung manis

SUMMARY

Increased corn production can be increased by improving soil conditions. Improvement of soil conditions can be done by giving rice straw compost and KCL fertilizer. Straw compost is expected to improve soil structure, while KCl fertilizer is expected to increase nutrient K.

This study aims to determine the response of rice straw compost and KCl fertilizer to the growth and production of sweet corn (Zea mays sacharata). This research was conducted in the Experimental Garden of the Faculty of Agriculture, North Sumatra Islamic University, KelurahanGedung Johor, Kecamatan Medan Johor, Kotamadya Medan, North Sumatra Province at a height of ± 25 meters above sea level. The study was conducted in February 2019 to May 2019.

This research uses a factorial randomized block design with two factors: the first factor is the use of rice straw compost (J) which consists of 4 levels, namely: J0 = control (not given straw compost); J1 = 10 tons / ha (2.25kg / plot); J2 = 20 tons / ha (4,5kg / plot); J3 = 30 tons / ha (6.75kg / plot). The second factor is the application of KCL fertilizer (K) which consists of 3 levels, namely: K0 = Control (Not given KCL fertilizer); K1 = 50 kg / ha (11.25g / plot) and K2 = 100 kg / ha (22.50g / plot). And repeated 3 times. The parameters observed were plant height (cm), number of leaves (strands), stem diameter (mm), length of corn fruit (cm), diameter of fruit (mm), weight of fruit per plant Sample (g), weight of fruit per plot (kg) and the number of seeds per cob (seeds).

The results showed that the administration of rice straw compost significantly affected plant height, number of leaves, stem diameter, fruit length, fruit diameter, plant fruit weight and fruit weight per plot, but did not significantly affect the number of planting seeds. The highest dose of rice straw compost is at a dose of 6.75 kg / plot (30 tons / ha). The application of KCl fertilizer has a significant effect on plant height, number of leaves, stem diameter, fruit length, fruit diameter, fruit weight per plant and fruit weight per plot, but has no significant effect on the number of planting seeds. The best KCl fertilizer was obtained at a dose of 22.5 g / plot (100kg / ha). The interaction of rice straw compost and KCl fertilizer had no significant effect on plant height, number of leaves, stem diameter, fruit length, fruit diameter, crop fruit weight and number of crop seeds, but fruit weight per plot had a significant effect. The best treatment on J3K1 (6.75 kg of compost and 11.25 g of KCl fertilizer / plot) was 4.23 kg, and the lowest was on J0K0 treatment (without compost and KCl fertilizer) of 2.40 kg

Keywords: Compost rice straw, KCl fertilizer, growth and production of sweet corn plants