ABSTRAK

Tujuan utama dari penelitian ini adalah untuk mengetahui respon pertumbuhan dan produksi tanaman jagung *glass gem (zea mays* L.) dengan menggunakan pembenahan tanah *trichokompos* dan pemberian *eco enzyme*. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Faktorial yang terdiri dari 2 faktor perlakuan dengan 16 kombinasi dan 3 ulangan sehingga memperoleh jumlah plot sebesar 48 plot. Adapun parameter yang diamati pada penelitian ini adalah Pertumbuhan Vegetatif yang terdiri dari umur bunga, tinggi tanaman, jumlah daun, panjang akar, luas daun, diameter batang, laju asimilasi bersih, bobot segar dan kering akar, bobot segar dan kering tajuk, laju pertumbuhan tanaman. Pengamatan yang kedua adalah produksi yang terdiri dari panjang tongkol, diameter tongkol, berat tongkol per sampel, bobot tongkol dengan kelobot/tanaman sampel.

Hasil penelitian menunjukkan bahwa hasil analisis kandungan pupuk *trichokompos* yaitu Nitrogen 1,93%, P2O5 1,93%, K2O 3,56; C-Organik 25,35%; Cu 23,29 Ppm, Fe 0,23%, Mn 181,95 Ppm, Zn 0,01 Ppm, pH 8,71, dan kadar air sebesar 50,50%. Selanjutnya hasil analisis kandungan pupuk *eco enzym* yaitu Nitrogen 0.25%, P2O5 0.02, K2O 0,04; C-Organik 0.93%; Cu >0.0002 Ppm, Fe 34,44 Ppm Mn 4,43 Ppm, Zn 0,01 Ppm, pH .25. Pemanfaatan limbah buah-buahan sebagai pupuk organik cair dan kotoran sapi sebagai pupuk organik efektif digunakan sebagai laju pertumbuhan dan produktivitas tanaman jagung khususnya jenis *galss gem corn*. Pemberian pupuk trichokompos mempengaruhi pertumbuhan tinggi tanaman, jumlah daun, diameter batang, luas daun, bobot segar akar, bobot kering akar, bobot segar tajuk, laju asimilasi bersih (LAB), laju laju pertumbuhan (LPT), panjang akar, panjang tongkol, diameter tongkol, bobot tongkol / sampel dan bobot tongkol dengan kelobot / sampel. Tetapi tidak mempengaruhi bobot kering tajuk dan umur berbunga. Perlakuan terbaik terdapat pada T2 (pupuk trichokompos 4,5 kg/plot). Perlakuan eco enzym mempengaruhi bobot kering akar, panjang akar, panjang tongkol, diameter tongkol, bobot tongkol / sampel, dan bobot tongkol dengan kelobot / sampel. Tetapi tidak mempengaruhi pertumbuhan tinggi tanaman, jumlah daun, diameter batang, luas daun, bobot segar akar, bobot segar tajuk, bobot kering tajuk, umur berbunga, laju asimilasi bersih (LAB), dan laju pertumbuhan tanaman (LPT). Perlakuan terbaik terdapat pada E2 (eco enzym 15 ml/l air/m2 /aplikasi). Interaksi dari kedua perlakuan pupuk trichokompos dan eco enzym mempengaruhi luas daun, panjang akar dan panjang tongkol.

Kata Kunci : ***Glass Gem Corn, Eco Enzyme, Trichokompos***

ABSTRACT

The main objective of this research is to determine the growth response and production of glass gem corn plants (zea mays L.) using trichocompost soil amendments and the application of eco enzyme. This research used a factorial randomized block design (RAK) consisting of 2 treatment factors with 16 combinations and 3 replications to obtain a total of 48 plots. The parameters observed in this study were Vegetative Growth which consisted of flower age, plant height, number of leaves, root length, leaf area, stem diameter, net assimilation rate, fresh and dry root weight, shoot fresh and dry weight, plant growth rate.. The second observation is production which consists of cob length, cob diameter, cob weight per sample, cob weight with sample husks/plants.

The research results showed that the results of the analysis of trichocompost fertilizer content were Nitrogen 1.93%, P2O5 1.93%, K2O 3.56; C-Organic 25.35%; Cu 23.29 Ppm, Fe 0.23%, Mn 181.95 Ppm, Zn 0.01 Ppm, pH 8.71, and water content of 50.50%. Furthermore, the results of the analysis of the eco enzyme fertilizer content are Nitrogen 0.25%, P2O5 0.02, K2O 0.04; C-Organic 0.93%; Cu >0.0002 Ppm, Fe 34.44 Ppm Mn 4.43 Ppm, Zn 0.01 Ppm, pH .25. The use of fruit waste as liquid organic fertilizer and cow dung as organic fertilizer is effectively used to increase the growth rate and productivity of corn plants, especially galss gem corn. The application of trichocompost fertilizer affects the growth of plant height, number of leaves, stem diameter, leaf area, root fresh weight, root dry weight, shoot fresh weight, net assimilation rate (LAB), growth rate (LPT), root length, ear length, diameter. cob, cob/sample weight and cob weight with cob/sample. But it does not affect shoot dry weight and flowering time. The best treatment was found in T2 (trichocompost fertilizer 4.5 kg/plot). Eco enzyme treatment affects root dry weight, root length, ear length, ear diameter, ear weight/sample, and ear weight with husk/sample. However, it does not affect the growth of plant height, number of leaves, stem diameter, leaf area, fresh root weight, shoot fresh weight, shoot dry weight, flowering age, net assimilation rate (LAB), and plant growth rate (LPT). The best treatment is E2 (eco enzyme 15 ml/l water/m2 /application). The interaction of the two treatments of trichocompost fertilizer and eco enzyme affects leaf area, root length and ear length.

Key Word : ***Glass Gem Corn, Eco Enzyme, Trichokompos***