

## RINGKASAN

Penelitian ini dilakukan di Kebun percobaan Fakultas Pertanian UISU, Kelurahan Gedung Johor, Kecamatan Medan Johor, Kota Madya Medan, Provinsi Sumatera Utara dengan ketinggian  $\pm 25$  m dpl dengan topografi datar. Penelitian ini di bimbing oleh Ibu Ir.Mindalisma.MM sebagai ketua dan Ibu Rahmi Dwi Handayani Rambe,S.P.,M.P. sebagai anggota. Penelitian ini bertujuan untuk mempelajari Respon Pertumbuhan Dan Hasil Tanaman Kacang Tanah (*Arachis hypogaea L.*) Terhadap Pemberian Pupuk Organik Cair Air Limbah Budidaya Ikan Lele (POCale) Dan Pupuk Vermikompos

Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Faktorial dengan dua faktor yang diteliti yaitu : 1. Faktor pertama adalah Pupuk Organik Cair Air Limbah Budidaya Ikan Lele terdiri dari 4 taraf perlakuan, yaitu :  $L_0 = 0$  Kontrol,  $L_1 = 150$  ml/l air/plot,  $L_2 = 300$  ml/l air/plot,  $L_3 = 450$  ml/l air/plot. 2. Faktor kedua adalah Pupuk Organik Vermikompos yang terdiri dari 4 taraf perlakuan, yaitu :  $K_0 = 0$  g kontrol,  $K_1 = 1$  kg/plot,  $K_2 = 2$  kg/plot,  $K_3 = 3$  kg/plot. Parameter yang diamati adalah Tinggi tanaman (cm), Jumlah Cabang Produktif, Bobot polong per tanaman sample (gr), bobot polong per plot (kg), bobot 100 butir per biji (gr)

Hasil penelitian menunjukkan melalui pemberian pupuk organic cair (POC) air limbah budidaya ikan lele berpengaruh tidak nyata terhadap tinggi tanaman, jumlah cabang produktif, bobot polong per tanaman sample, bobot polong per plot, bobot 100 butir per biji perlakuan yang tertinggi pada perlakuan  $L_3$  (450 ml/ plot). Pada perlakuan pupuk vermikompos berpengaruh nyata terhadap tinggi tanaman, jumlah cabang produktif, bobot polong per tanaman sample, bobot polong per plot, bobot 100 butir per biji perlakuan yang tertinggi pada perlakuan  $K_3$  (3 kg/ plot). Namun interaksi respon peningkatan pertumbuhan dan produksi tanaman kacang tanah (*A. hypogaea L.*) melalui pemberian pupuk organic cair (POC) air limbah budidaya ikan lele dan pupuk vermikompos berpengaruh tidak nyata terhadap bobot 100 butir biji. Rataan bobot 100 butir biji kacang tanah (*A. hypogaea L.*) yang tertinggi pada perlakuan  $L_3K_3$  (450 ml dan 3 kg/ plot).

**Kata kunci : POC Air Limbah Budidaya Ikan Lele, Pupuk Vermikompos**

## SUMMARY

This research was conducted at the UISU Faculty of Agriculture experimental garden, kelurahan Gedung johor, kecamatan medan johor, kota medan, North Sumatra Province at an altitude of  $\pm 25$  m above sea level with flat topography. This research was supervised by Mrs. Ir.Mindalisma.MM as chairman and Mrs. Rahmi Dwi Handayani Rambe, S.P., M.P. as a member. This research aims to study the response of growth and yield of peanut plants (*Arachis hypogaea* L.) to the application of liquid organic fertilizer from catfish farming wastewater (POCAle) and vermicompost fertilizer.

This research used a Factorial Randomized Group Design (RAK) with two factors studied, namely: 1. The first factor was Liquid Organic Fertilizer from Catfish Cultivation Wastewater consisting of 4 levels of treatment, namely: L0 = 0 Control, L1 = 150 ml/l water /plot, L2 = 300 ml/l water/plot, L3 = 450 ml/l water/plot. 2. The second factor is Vermicompost Organic Fertilizer which consists of 4 treatment levels, namely: K0 = 0 g control, K1 = 1 kg/plot, K2 = 2 kg/plot, K3 = 3 kg/plot). The parameters observed were plant height (cm), number of productive branches, pod weight per sample plant (gr), pod weight per plot (kg), weight of 100 seeds per seed (gr).

The results of the research showed that through the application of liquid organic fertilizer (POC), catfish cultivation wastewater had no significant effect on plant height, number of productive branches, pod weight per sample plant, pod weight per plot, weight of 100 seeds per treatment, the highest in the L3 treatment (450 ml/ plot). The vermicompost fertilizer treatment had a significant effect on plant height, number of productive branches, pod weight per sample plant, pod weight per plot, weight of 100 seeds per treatment, the highest in the K3 treatment (3 kg/ plot). However, the interaction response to increase the growth and production of peanut plants (*A. hypogaea* L.) through the application of liquid organic fertilizer (POC) from catfish cultivation wastewater and vermicompost fertilizer had no significant effect on the weight of 100 seeds. The average weight of 100 peanut seeds (*A. hypogaea* L.) was highest in the L3K3 treatment (450 ml and 3 kg/ plot).

**Keywords: POC Catfish Cultivation Wastewater, Vermicompost Fertilizer**