RINGKASAN

Azolla microphylla mengandung 24-30 persen protein kasar, 3-3,3 persen lemak kasar, 9,1 persen serat kasar, 0,4-1 persen kalsium. Tanaman *A. microphylla* memiliki banyak manfaat seperti sebagai pupuk organik, pakan ternak unggas dan ikan. Namun demikian, potensi azolla belum dimanfaatkan masyarakat secara luas. Permasalahannya adalah masyarakat mengalami kesulitan dalam adopsi budidaya Azolla, akibatnya tanaman Azolla lama kelamaan menguning, daun mengecil, pertumbuhan lambat dan akhirnya mati.

Limbah air kolam ikan lele berpotensi untuk dijadikan pupuk tanaman, termasuk untuk *A. microphylla* karena mengandung nitrogen 1,32 % dan phospor 2,64 %. Nitrogen dan phospor dalam limbah air budidaya lele berasal dari feses, sisa pakan dan urine ikan yang memiliki kandungan protein tinggi. Masalah yang harus dipecahkan adalah berapa banyak limbah air lele yang harus diberikan dan seberapa intensif pemupukan dilakukan pada kolam *A. microphylla.*

Penelitian ini bertujuan untuk :(1) mengetahui pengaruh intensitas pemberian pupuk organik cair terhadap pertumbuhan tanaman *Azolla microphylla*; (2) mengetahui pengaruh pemberian dosis pupuk organic cair terhadap pertumbuhan tanaman *Azolla microphylla*; (3) mengetahui interaksi intensitas aplikasi dan pemberian dosis pupuk organic cair (POC) terhadap pertumbuhan tanaman *Azolla microphylla*. Penelitian ini dilaksanakan di Desa Pekalongan, Purbalingga. Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok (RAK) 2 faktor, dengan 3 ulangan. Faktor pertama adalah intensitas pemberian pupuk organik cair (POC), yaitu satu minggu sekali (T1) dan dua minggu sekali (T2). Faktor kedua adalah dosis pupuk organik cair (POC), 200 cc/m^2 (P1), 400 cc/m^2 (P2), 600 cc/m^2 (P3), 800 cc/ (P4). Hasil penelitian menunjukkan intensitas aplikasi POC tidak berpengaruh nyata terhadap semua variabel pengamatan. Dosis pupuk organik cair (POC) berpengaruh nyata terhadap laju pertumbuhan *Azolla microphylla*, lama waktu *recovery*, bobot biomassa segar dan kering. Tidak terjadi Interaksi antara intensitas aplikasi dan dosis POC.

Kata Kunci: *Azolla microphylla*, intensitas aplikasi, dosis, pupuk organik cair (POC)

SUMMARY

Azolla microphylla contains 24-30 percent crude protein, 3-3.3 percent crude fat, 9.1 percent crude fiber, 0.4-1 percent calcium. The A. microphylla plant has many benefits such as organic fertilizer, poultry feed and fish. However, the potential for azolla has not been utilized widely by the community. The problem is that people experience difficulties in adopting Azolla cultivation, as a result Azolla plants eventually turn yellow, leaves shrink, slow growth and eventually die.

Catfish pond water waste has the potential to be used as fertilizer for plants, including A. microphylla because it contains 1.32% nitrogen and phospor 2.64%. Nitrogen and phosphorus in waste water from catfish cultivation come from feces, the rest of the feed and fish urine which have high protein content. The problem that must be solved is how much waste catfish must be given and how intensive fertilization is carried out to A. microphylla pond.

This research aimed to:(1) determine the effect of intensity of application of liquid organic fertilizer to the growth of Azolla microphylla plants; (2) determine the effect of doses of liquid organic fertilizer application on the growth of Azolla microphylla; (3) study the interaction intensity of application and dose of liquid organic fertilizer on the growth of Azolla microphylla. This research was conducted in Pekalongan Village, Purbalingga. The experimental design used was Randomized Block Design (RBD), two factor with 3 replications. The first factor was the intensity of liquid organic fertilizer (POC), which is once a week (T1) and once every two weeks (T2). The second factor was the dose of liquid organic fertilizer (POC), 200 cc / m2 (P1), 400 cc / m2 (P2), 600 cc / m2 (P3) and 800 cc / (P4). The results showed that the intensity of fertilizer application did not significantly affect all of observed variables. The dose of liquid organic fertilizer (POC) has a significant effect on growth rates, recovery time and fresh and dry biomass weight. There was no interaction between the intensity of application and the dose of POC.

Keywords : Azolla microphylla, intensity of application, dose, liquid organic fertilizer