RINGKASAN

Bayam dalam budidayanya membutuhkan media tanam yang porous, mampu menyimpan air, dan subur khususnya memiliki kandungan N yang cukup. Arang sekam memiliki sifat yang porus. Pupuk organik cair (POC) berbahan baku *Azolla mycrophylla* memiliki kandungan N yang tinggi, serta pupuk kandang berpotensi meningkatkan kemampuan tanah menyimpan air. Penelitian ini bertujuan untuk (1) mengetahui, pengaruh perbedaan komposisi media tanam dan EC pupuk organik cair berbahan *Azolla mycrophylla* terhadap pertumbuhan tanaman bayam merah, dan (2) menentukan komposisi media tanam dan dosis pupuk organik cair berbahan *Azolla mycrophylla* yang paling efektif untuk pertumbuhan tanaman bayam merah, dan 3) mengetahui interaksi antara perlakuan variasi komposisi media tanam dengan variasi EC POC.

Penelitian dilaksanakan pada 17 Desember 2020 sampai dengan 10 Februari 2021 di *screen house* wilayah Desa Melung Kecamatan Kedungbanteng. Rancangan percobaan yang digunakan yaitu Rancangan Acak Kelompok (RAK) dengan dua faktor. Faktor yang pertama EC POC *Azolla mycrophylla* yaitu Pp = pupuk kimia cair sebagai pembanding, P0 = kontrol, P1 = 1,7 7mS/cm², P2 = 2,27mS/cm² dan P3 = 2,77mS/cm². Faktor kedua adalah komposisi media tanam yaitu M0 = tanah 95% : pupuk kandang sapi 5%, M1 = tanah 70% : arang sekam 25% : pupuk kandang sapi 5% dan M2 = tanah 45% : arang sekam 50% : pupuk kandang sapi 5%. Masing-masing faktor dikombinasikan sehungga menghasilkan 15 kombinasi dan diulang sebanyak 3 kali sehingga menghasilkan 45 unit percobaan. Variabel yang diamati yaitu tinggi tanaman (cm), jumlah daun (helai), bobot tanaman segar (gram), bobot tanaman kering (gram) dan luas daun (cm²).

Hasil penelitian menunjukkan bahwa variasi komposisi media tanam berpengaruh pada semuan variabel. Pada semua variabel hasil terbaik secara konsisten dicapai pada komposisi media tanah:pupuk kandang sapi:arang sekam 45% : 5% : 50% (M2), namun pada variabel luas daun hasil terbaik dicapai pada komposisi media 70% : 5% : 25% (M1). Hasil Komposisi media tanam cenderung tertinggi pada variabel tinggi tanaman M2 29,42 cm, jumlah daun M2 16,8 helai, luas daun M1 20,659 cm², bobot tanaman segar M2 21,17 gram dan bobot tanaman kering M2 1,61 gram. Perlakuan variasi EC POC Azolla mycrophylla tidak berpengaruh nyata pada semua variabel. Tidak ditemukan adanya interaksi yang berpengaruh nyata antara perlakuan variasi media tanam dan variasi EC POC.

Kata kunci : Bayam merah, POC Azolla mycrophylla, Arang sekam, Electrical conductivity.

SUMMARY

Spinach in its cultivation requires a planting medium that is porous, capable of storing water, and fertile, especially having sufficient N content. Husk charcoal has a porous nature. Liquid organic fertilizer (POC) made from Azolla mycrophylla has a high N content, and manure has the potential to increase the soil's ability to store water. This study aims to (1) determine the effect of differences in the composition of the growing media and EC of liquid organic fertilizer made from Azolla mycrophylla on the growth of red spinach, and (2) determine the composition of the growing media and the dose of liquid organic fertilizer made from Azolla mycrophylla which is most effective for plant growth. red spinach, and 3) knowing the interaction between the treatment of variations in the composition of the growing media with variations in EC POC.

The research was carried out on December 17, 2020 to February 10, 2021 at the screen house in the Melung Village area, Kedungbanteng District. The experimental design used was a Randomized Block Design (RAK) with two factors. The first factor was EC POC Azolla mycrophylla, namely Pp = liquid chemical fertilizer as a comparison, P0 = control, P1 = 1.7 7mS/cm², P2 = 2.27mS/cm² and P3 = 2.77mS/cm². The second factor is the composition of the planting medium, namely M0 = 95% soil: 5% cow manure, M1 = 70% soil: 25% husk charcoal: 5% cow manure and M2 = 45% soil: 50% husk charcoal: cow manure 5%. Each factor was combined to produce 15 combinations and repeated 3 times to produce 45 experimental units. The variables observed were plant height (cm), number of leaves (strands), fresh plant weight (grams), dry plant weight (grams) and leaf area (cm²).

The results showed that the variation in the composition of the growing media had an effect on all variables. In all variables the best results were consistently achieved on the media composition of soil: cow manure: husk charcoal 45%: 5%: 50% (M2), but on the leaf area variable the best results were achieved at 70%: 5%: 25% media composition. (M1). The results showed that the composition of the growing media tended to be highest on the variable M2 plant height 29.42 cm, M2 leaf number 16.8 strands, M1 leaf area 20.659 cm², fresh plant weight M2 21.17 grams and dry plant weight M2 1.61 grams. The treatment of EC POC variation of Azolla mycrophylla had no significant effect on all variables. It was not found that there was a significant interaction between the treatment of planting media variations and EC POC variations.

Keywords : Red spinach, POC Azolla mycrophylla, husk charcoal, Electrical conductivity.