RINGKASAN

Bayam merah (*Amaranthus tricolor* L.,) merupakan tanaman yang daunnya biasa dikonsumsi sebagai sayuran, karena memiliki tekstur yang lunak dan banyak zat gizi. Hal ini menunjukkan bahwa tanaman bayam merah sangat penting untuk kesehatan. Oleh karena itu budidaya bayam merah perlu mendapat perhatian. Penelitian ini bertujuan untuk mendapatkan (1) media tanam terbaik untuk pertumbuhan dan hasil tanaman bayam merah, (2) konsentrasi pupuk organik cair limbah ikan nila yang optimum untuk pertumbuhan dan hasil tanaman bayam merah, (3) mengetahui pengaruh interaksi media tanam dan konsentrasi pupuk organik cair terhadap pertumbuhan dan hasil tanaman bayam merah.

Penelitian ini dilaksanakan pada bulan Maret sampai dengan Juli 2020 di Desa Selokromo, Kecamatan Leksono, Kabupaten Wonosobo. Ketinggian tempat penelitian ±200 mdpl. Penelitian ini menggunakan Rancangan Acak Kelompok Lengkap (RAKL) faktorial dengan 2 faktor dan 3 ulangan. Faktor pertama yaitu tiga macam media tanam (M0 = 7,2 kg tanah, M1= 7,2 kg tanah+120 g pupuk kompos, M2= 7,2 kg tanah, 120 g pupuk kompos+30 g arang sekam) dan faktor kedua yaitu empat taraf konsentrasi pupuk organik cair (P0= konsentrasi 0%, P1= konsentrasi 10%, P2= konsentrasi 20%, dan P3= konsentrasi 30%) masing-masing faktor dikombinasikan dan didapatkan 12 kombinasi perlakuan, perlakuan diulang sebanyak 3 kali ulangan sehingga diperoleh 36 unit percobaan, dalam satu unit masing-masing terdiri dari 3 tanaman, sehingga terdapat 108 tanaman. Variabel yang diamati adalah jumlah daun, tinggi tanaman, bobot akar segar, bobot akar kering, luas daun, bobot tajuk segar, bobot tajuk kering, bobot tanaman segar, bobot tanaman kering.

Data hasil penelitian dianalisis menggunakan uji F. Apabila hasil menunjukkan adanya pengaruh nyata maka dilanjutkan dengan uji lanjut *Duncan's Multiple Range Test* (DMRT) pada taraf 5%. Hasil penelitian menunjukkan bahwa media tanam campuran tanah+kompos+arang sekam, dan campuran tanah+kompos lebih baik dibanding media tanam tanah, dilihat dari variabel tinggi tanaman, jumlah daun, bobot tanaman kering, bobot akar segar, dan bobot tajuk kering. Perlakuan M1 lebih baik dari M2 pada variabel tinggi tanaman dan jumlah daun, perlakuan M1 menghasilkan tinggi tanaman sebesar 12,95 cm dan jumlah daun sebesar 13,16 helai. Perlakuan M2 lebih baik dari M1 pada variabel bobot tanaman kering, bobot akar segar, dan bobot tajuk kering, perlakuan M2 menghasilkan bobot tanaman kering sebesar 7,66 g, bobot akar segar sebesar 9,87 g, dan bobot tajuk kering sebesar 6,82 g. Pemberian pupuk organic cair limbah ikan nila dengan konsentrasi 0%, 10%, 20%, dan 30% tidak berpengaruh terhadap pertumbuhan dan hasil tanaman bayam merah. Tidak terdapat interaksi antara media tanam dan konsentrasi POC pada pertumbuhan dan hasil tanaman bayam merah.

Kata Kunci: Pupuk Organik Cair, Media Tanam, Bayam Merah.

SUMMARY

Red spinach (Amaranthus tricolor L.*,) is plant whose leaves are commonly consumed as vegetables, because it has a soft textured and a lot of nutrients. This suggested that red spinach is essential for health. Therefore, the cultivation of red spinach need more attention. This research aims to determine: (1) the best planting media for the growth and yield of red spinach plants, (2) the optimum liquid organic fertilizer concentration of fish waste for growth and yields of red spinach, (3) the effect of the interaction of growing media and liquid organic fertilizer concentration on the growth and yield of red spinach.*

This research was conducted in March until July 2020 in Selokromo, Leksono, Wonosobo at 200 meters above sea level. This study used Randomized Completely Block Design. The treatment were combination of two factors. The first factor was three kinds of planting media M0= 7.2 kg of soil, M1= 7.2 kg of soil and 120 g of compost, M2= 7.2 kg of soil, 120 g of compost and 30 g of husk charcoal, the second factor are four levels liquid organic fertilizer concentrations P0= 0% concentration, P1= 10% concentration, P2= 20% concentration, and P3= 30% concentration. Each factor is combined and obtained 12 treatment combinations, the treatment was repeated 3 times, resulted in 36 experimental units, each unit consists of 3 plants, so there are 108 plants. The observed variabels were number of leaves, plant height, fresh root weight, dry root weight, leaf area, fresh crown weight, dry crown weight, fresh plant weight, and dry plant weight.

The research data were analyzed by means of the F test. If results was significant, it is further tested using Duncan's Multiple Range Test (DMRT) at the level of 5%. The result showed that the planting media of soil+compost+ husk charcoal, and soil+compost was better than soil planting media, from the variable plant height, number of leaves, dry plant weight, fresh root weight, and dry crown weight. M1 treatment was better than M2 on the variable plant height and number of leaves. M1 resulted in plant height of 12,95 cm and number of leaves of 13,16 strands. M2 treatment was better than M1 on the variable dry plant weight, fresh root weight, and dry crown weight. M2 resulted in dry plant weight of 7,66 g, fresh root weight of 9,87 g, and dry crown weight of 6,82 g. The liquid organic fertilizer did not affect plant growth and yield of red spinach. There was no interaction between liquid organic fertlizer waste and planting medium to the observed variables of growth and yield of red spinach.

***Keywords**: Liquid Organic Fertilizer, Planting Media, Red Spinach*