

RINGKASAN

Bawang merah (*Allium ascalonicum* L) merupakan produk hortikultura yang banyak dikonsumsi manusia. Kebutuhan nasional akan bawang merah setiap tahunnya meningkat, namun lahan produksi semakin berkurang dan pada umumnya dipenuhi dari sistem pertanian konvensional. Maka dari itu perlu dilakukan suatu cara untuk menjaga kestabilan dan meningkatkan produktivitas dengan menggunakan lahan sempit sebagai lahan untuk budidaya bawang merah secara hidroponik. Penelitian ini bertujuan untuk: (1) mengetahui pengaruh jenis nutrisi berbasis azolla terhadap pertumbuhan tanaman bawang merah, (2) mengetahui pengaruh jenis media tanam terhadap produksi umbi bawang merah, dan (3) mengetahui interaksi antara jenis nutrisi dan jenis media tanam terhadap pertumbuhan dan produksi umbi bawang merah yang ditanam secara hidroponik rakit apung

Penelitian ini dilaksanakan di *screen house* petani, Pabuwaran, Purwokerto Utara, Banyumas dengan ketinggian 110 meter di atas permukaan laut (mdpl), mulai dari bulan Oktober 2018 sampai Januari 2019. Rancangan yang digunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan dua faktor dan tiga ulangan. Faktor pertama adalah jenis larutan hara yaitu nutrisi AB *mix* (A₀), Pupuk Organik Cair (POC) *Azolla microphylla* petani (A₁), dan POC inovasi mahasiswa (A₂). Faktor kedua adalah jenis media tanam yaitu *rockwool* (B₁), arang sekam (B₂), dan *cocopeat* (B₃). Data hasil percobaan dianalisis menggunakan *analysis of varians* (ANOVA) pada taraf kesalahan 5% dan jika nyata dilanjutkan dengan uji *Least Significance Different* (LSD) pada taraf kepercayaan 95%.

Hasil penelitian menunjukkan bahwa jenis nutrisi berpengaruh nyata terhadap panjang daun, jumlah daun, bobot tajuk segar, bobot tajuk kering, jumlah umbi perumpun, diameter umbi terbesar, bobot umbi segar, dan bobot umbi kering. Nutrisi POC *Azolla microphylla* petani hanya mampu meningkatkan jumlah umbi per rumpun sebesar 28,41% dibandingkan AB *mix*. Media arang sekam hanya mampu meningkatkan jumlah umbi per rumpun sebesar 19,09% dibandingkan *rockwool* dan media *rockwool* hanya mampu meningkatkan diameter umbi terbesar 17,53% dibandingkan arang sekam. Tidak ada interaksi antara jenis nutrisi dengan jenis media tanam terhadap pertumbuhan dan hasil tanaman bawang merah.

Kata kunci: bawang merah, hidroponik, nutrisi, media tanam.

SUMMARY

*Shallots (*Allium ascalonicum* L) is the product horticulture which many consumed by humans. Its national demand will increase onion every year, but productivity land became much smaller and in general met by conventional farming system. So one would have to do a way to maintain the stability and increases the production of with overflow into his narrow as land for the cultivation of onion in hydroponic. The purpose of this research was to (1) find out the effects of type Azolla based nutrition on shallot plant growth, (2) to know type of planting media on shallot bulbs production, (3) and to studied the interaction between the types of nutrition and the types of planting media on the growth and production of shallot bulbs which are planted by floating hydroponic system.*

This research was conducted in plastic house of farmer, Pabuwaran, North Purwokerto, Banyumas with height of 110 meters above sea level (masl) started from October 2018 to January 2019. The design used was Randomized Complete Block Design (RCBD) with 2 factors and repeated three times. The first factor is the type of nutrient solution, namely nutrition AB mix (A₀), Liquid Organic Fertilizer (LOF) Azolla microphylla farmer (A₁), and LOF student innovation (A₂). The second factor was the type of planting media rockwool (B₁), husk charcoal (B₂), and cocopeat (B₃). The results of the experimental data were analyzed using analysis of variance (ANOVA) at the error level of 5% and if evidently continued with the Least Significance Different (LSD) test at the 95% confidence level.

The results showed that the type of nutrition had significant effect on leaf length, leaf number, fresh canopy weight, dry canopy weight, number of clump bulbs, largest bulbs diameter, fresh bulbs weight, and dry bulbs weight. Farmer's LOF Azolla microphylla based nutrition was only able to increase the number of bulbs per clump by 28,41% compared AB mix. Husk charcoal media is only able to increase the number of bulbs per clump by 19,09% compared rockwool and rockwool media is only able to increase the largest bulbs diameter of 17,53% compared husk charcoal. There was no interaction between types of nutrients with type of planting media on the growth and result of shallots.

Keywords: shallots, hydroponic, nutrition, planting media.