Intisari

Penelitian ini bertujuan untuk mengetahui interaksi dan pengaruh warna cahaya lampu LED berupa cahaya putih, biru, merah dan merah:biru dengan jenis media tanam berupa tanah, *cocopeat* dan arang sekam terhadap pertumbuhan *microgreens* kangkung. Penelitian ini dilaksanakan pada bulan April-Mei 2023 di Laboratorium Manajemen dan Produksi Tanaman, Departemen Budidaya Pertanian, Fakultas Pertanian, Universitas Gadjah Mada. Penelitian ini menggunakan rancangan *split plot*. Penelitian ini dilakukan selama 14 hari dan diamati pada umur 10 dan 14 hss. Pengamatan tanaman berupa variabel mutu fisik, kimiawi serta analisis pertumbuhan. Mutu fisik yang diamati berupa tinggi tanaman, luas daun, bobot segar dan kering tanaman menggunakan *leaf area meter* dan timbangan analitik digital. Sementara itu, pengamatan mutu kimiawi berupa kadar klorofil, karotenoid, vitamin C dan antioksidan menggunakan metode spektrofotometri. Padatan terlarut total (PTT) diukur dengan refraktometer. Analisis data dilakukan menggunakan analisis varian (ANOVA) dengan α = 5 % dan dilakukan dengan uji lanjut menggunakan uji HSD-Tukey dengan α = 5 %. Hasil penelitian menunjukkan bahwa cahaya LED dan media tanam menghasilkan interaksi pada variabel pengamatan mutu kimiawi. Perlakuan cahaya merah:biru pada media tanah mampu meningkatkan mutu kimiawi yang paling tinggi dibandingkan perlakuan lainnya. Cahaya merah:biru mampu menghasilkan nilai terbaik karena menggabungkan manfaat dari kedua cahaya. Media tanam tanah justru mampu meningkatkan mutu hasil kimawi *microgreens* sehingga dapat menambah nilai jual.

Kata Kunci: *microgreens*, kangkung, mutu fisik, mutu kimiawi

Abstract

This research aims to determine the interaction and influence of the lights of LED colour such as white, blue, red and red:blue light with types of planting media i.e soil, cocopeat and husk charcoal of the growth of kangkong microgreens. The experiment was conducted at the Crop Production Management Laboratory, Faculty of Agriculture, Universitas Gadjah Mada started from April-May 2023. This research was arranged with split plot design. Plants were grown for 14 days and observed at 10 and 14 days after seedling. Plant observations include physical, biochemical quality variables and growth analysis. The physical quality of microgreens was observed such as plant height, leaf area, fresh and dry plant weight using a leaf area meter and digital analytical scales. Meanwhile, observation of biochemical quality such as chlorophyll, carotenoid, vitamin C and antioxidant levels used the spectrophotometric method. Total dissolved solids (TSS) were measured with a refractometer. This study uses analysis of variance (ANOVA) with $\alpha = 5$ % and HSD-tukey's test with $\alpha = 5\%$. The result of the research show that there is an interaction on the chemical quality of microgreens. Red:blue light treatment on soil media is the best treatment that can improve chemical quality compared to other treatments. Red:blue light can improve the quality of microgreens because it combines the benefits of both lights. Soil planting media can improve the quality of microgreens, so it can improve the selling value.

Key words: microgreens, kangkong, physical quality, biochemical quality