

## INTISARI

Penelitian “Pengaruh Pemaparan Warna Dioda Pemancar Cahaya (LED) dan Media Tanam Pengganti Tanah terhadap Pertumbuhan dan Mutu Hasil *Microgreens* Selada (*Lactuca sativa* L.)” ini bertujuan untuk mengetahui interaksi dan pengaruh kombinasi antara jenis media tanam dan warna LED terhadap pertumbuhan dan hasil *microgreens* selada. Penelitian dilaksanakan di Ruang Hortikultura, Laboratorium Manajemen dan Produksi Tanaman, Departemen Budidaya Pertanian, Fakultas Pertanian, Universitas Gadjah Mada, Daerah Istimewa Yogyakarta. Penelitian dilaksanakan pada bulan 20 Maret 2023 hingga 6 April 2023. Penelitian ini digunakan rancangan *split plot design* dengan faktor utama yaitu warna LED dan anak faktor yaitu media tanam. Terdapat 12 kombinasi perlakuan dengan ulangan 3 kali. Warna LED yang digunakan ada empat yaitu putih, biru, merah, dan merah:biru(50:50). Media tanam yang digunakan yaitu tanah, *cocopeat*, dan arang sekam. Penelitian dilakukan dengan pengamatan lingkungan, pertumbuhan, analisis pertumbuhan, mutu hasil fisik dan kimiawi. Data yang diperoleh dianalisis dengan Analisis Varian (ANOVA) dengan tingkat signifikansi 5% dan uji lanjut HSD Tukey. Hasil menunjukkan terdapat interaksi antara warna LED dan media tanam terhadap mutu hasil kimiawi yaitu kadar klorofil, karotenoid, vitamin C, dan antioksidan. Perlakuan penyinaran LED dan media tanam berpengaruh nyata terhadap mutu hasil kimiawi *microgreens* selada pada 7 dan 14 hst. Kombinasi perlakuan antara penyinaran LED warna merah dan media arang sekam mampu meningkatkan pertumbuhan dan hasil *microgreens* selada.

Kata kunci: Antioksidan, LED, media tanam, *microgreens*, selada

## **ABSTRACT**

*The research "The Effect of LED Colour and Soil Substitute Planting Media on the Growth and Yield Quality of Lettuce (*Lactuca sativa* L.) Microgreens" aims to determine the interaction and influence of the combination of growing media types and LED colors on the growth and yield of lettuce microgreens. The study was conducted in the Horticulture Room, Plant Management and Production Laboratory, Department of Crop Cultivation, Faculty of Agriculture, Gadjah Mada University, Special Region of Yogyakarta. The research took place from March 20, 2023, to April 6, 2023. The study used a split-plot design with the main factor being LED colors and the sub-factor being the growing media. There were 12 treatment combinations with 3 replications. The LED colors used were four: white, blue, red, and red:blue (50:50). The growing media used were soil, cocopeat, and rice husk charcoal. The research involved environmental observations, growth analysis, and physical and chemical quality analysis. The data obtained were analyzed using Analysis of Variance (ANOVA) with a significance level of 5% and Tukey's Honestly Significant Difference (HSD) test. The results showed an interaction between LED colors and growing media on the chemical quality of the yield, such as chlorophyll content, carotenoids, vitamin C, and antioxidants. The LED light treatment and growing media significantly affected the chemical quality of lettuce microgreens at 7 and 14 days after sowing. The combination of red LED light and rice husk charcoal as the growing medium was able to improve the growth and yield of lettuce microgreens.*

*Keywords: Antioxidant, growing media, LED, lettuce, microgreens*