

**PENGARUH EKSTRAK TOMAT DAN MEDIA TANAM
TERHADAP PERTUMBUHAN DAN KADAR VITAMIN C
MICROGREEN LOBAK (*Raphanus sativus* L.)**

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ABSTRAK

Microgreen adalah varietas sayuran muda yang dapat dikonsumsi dan memiliki siklus produksi singkat (sekitar 14 hari) serta membutuhkan ruang tumbuh yang terbatas. *Microgreen* lobak kaya akan antioksidan dan memiliki sifat antimikroba. Pertumbuhan *microgreen* dipengaruhi oleh beberapa faktor, termasuk jenis media tanam, pemupukan, kelembaban, cahaya, dan suhu. Penelitian ini bertujuan untuk mengevaluasi pengaruh ekstrak tomat dan jenis media tanam serta interaksinya terhadap pertumbuhan dan kadar vitamin C *microgreen* lobak. Penelitian ini menggunakan metode eksperimental laboratorium dengan desain faktorial Rancangan Acak Lengkap (RAL) dua faktor. Faktor pertama adalah konsentrasi ekstrak tomat (0 g/L, 5 g/L, 10 g/L, dan 15 g/L), sedangkan faktor kedua adalah media tanam (cocopeat, zeolit, dan arang sekam). Parameter yang diukur mencakup persentase perkecambahan, tinggi tanaman, berat basah, berat kering, kandungan klorofil, karotenoid, dan vitamin C. Analisis data menggunakan uji Two-Way ANOVA, dan jika terdapat perbedaan signifikan, dilakukan uji lanjut dengan Duncan's New Multiple Range Test. Hasil penelitian menunjukkan bahwa variasi konsentrasi ekstrak tomat tidak memiliki pengaruh signifikan terhadap pertumbuhan dan kadar vitamin C *microgreen* lobak. Namun, konsentrasi ekstrak tomat berpengaruh secara signifikan pada kandungan klorofil dan karotenoid. Jenis media tanam memiliki dampak yang berbeda pada pertumbuhan, kandungan klorofil, karotenoid, dan vitamin C *microgreen* lobak. Media arang sekam menghasilkan tinggi tanaman tertinggi (rata-rata 11 cm) serta berat basah (rata-rata 8,8 gram) dan berat kering (rata-rata 0,5 gram) tertinggi. Sementara itu, media zeolit menghasilkan kandungan klorofil, karotenoid, dan vitamin C tertinggi (masing-masing rata-rata 25,52 mg/100 g, 73,01 mg/100 g, dan 62,78 mg/100 g).

Kata Kunci : arang sekam, berat, lobak, *microgreen*, tinggi

THE EFFECT OF TOMATO EXTRACT AND GROWING MEDIA ON THE GROWTH AND CONTENT OF VITAMIN C OF RADISH (*Raphanus sativus* L.) MICROGREEN

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ABSTRACT

Microgreen are young edible vegetables that have a short production cycle (about 14 days) and grow in a tiny space. Radish microgreen are rich with antioxidants and antimicrobial effect. The growth of microgreen are influenced by several factors such as the type of growing medium, fertilization, humidity, light, and temperature. This study aimed to determine the effect of tomato extract and planting media and analyzed their interaction on growth and vitamin C levels of radish microgreen. The method used in this study was laboratory experimental with Completely Randomized Factorial Designs with two-factors. The first factor was determined the concentration of tomato extract including 0 g/L, 5 g/L, 10 g/L, and 15 g/L. The second factor is analyzed the growing medium of cocopeat, zeolite, and husk charcoal. Parameters measured included germination percentage, plant height, wet weight and dry weight, chlorophyll, carotenoids, and vitamin C. Data analysis was performed using a two-way ANOVA test and if there is a significant difference, then proceed with a further test using Duncan's New Multiple Range test. The results showed that tomato extract treatment with different concentrations had no significant effect on growth parameters and vitamin C of radish microgreen, but had a significant effect on chlorophyll and carotenoid parameters. The different treatments of growing media affected growth parameters, chlorophyll and carotenoids, and vitamin C, but did not significantly differ in germination parameters. Rice husk charcoal media produced the highest microgreen, reaching an average of 11 cm. Rice husk charcoal also produced the highest average 8.8 gram fresh weight and 0.5 gram dry weight. Zeolite media produced the highest levels of chlorophyll, carotenoids and vitamin C, namely 25.52 mg/100 g, 73.01 mg/100 g and 62.78 mg/100 g. The concentration of tomato extract which significantly affected chlorophyll and carotenoids, namely at 15 g/L, produced the highest levels of chlorophyll and carotenoids reaching 77.96 mg/100 g and 28.90 mg/100 g. The combination treatment of growing media with tomato extract interacted significantly with chlorophyll, carotenoids, and vitamin C, while the other parameters did not produce interactions.

Key word: husk charcoal, microgreen, plant height, radish, weight