

APLIKASI PUPUK DAUN DAN BORON TERHADAP PERTUMBUHAN DAN HASIL TANAMAN MELON (*Cucumis melo* L.) DENGAN SISTEM HIDROPONIK SUBSTRAT

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ABSTRAK

Tanaman melon merupakan tanaman hortikultura yang banyak dikonsumsi masyarakat Indonesia, tetapi di DIY produktivitasnya mengalami fluktuasi. Penelitian ini bertujuan untuk mengkaji interaksi pemberian pupuk daun dan boron serta mendapatkan konsentrasi pupuk daun dan boron paling baik terhadap pertumbuhan dan hasil tanaman melon hidroponik substrat. Penelitian dilaksanakan di Plantasia Greenhouse, Sleman, bulan Oktober hingga Desember 2025. Metode penelitian menggunakan percobaan lapangan yang disusun dengan Rancangan Petak Terbagi (*Split Plot Design*). Petak utama terdiri 2 aras konsentrasi pupuk daun yaitu (3 dan 5 g/L) serta anak petak terdiri 4 aras konsentrasi boron (0,2; 0,3; 0,4 dan 0,5 ppm). Setiap kombinasi perlakuan diulang tiga kali. Data hasil penelitian dianalisis menggunakan sidik ragam 5%, dan diuji lanjut dengan BNT taraf 5%. Hasil penelitian menunjukkan adanya interaksi antara perlakuan pupuk daun dan pupuk boron pada parameter bobot buah, ketebalan daging buah, lingkaran buah, dan total kadar gula pada kombinasi perlakuan pupuk daun 5 g/L dan pupuk boron 0,4 ppm. Perlakuan pupuk daun konsentrasi 5 g/L menunjukkan hasil paling baik pada parameter bobot buah, ketebalan daging buah, dan total kadar gula. Perlakuan pupuk boron konsentrasi 0,4 ppm menunjukkan hasil paling baik pada parameter bobot buah, lingkaran buah, ketebalan daging buah, dan total kadar gula.

Kata Kunci : Pupuk Daun, Boron, Substrat, Hidroponik, Melon

**THE EFFECTS OF FOLIAR FERTILISER AND BORON APPLICATION
ON THE GROWTH AND YIELD OF MELON PLANTS (*Cucumis melo* L.)
USING A SUBSTRATE HYDROPONIC SYSTEM**

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ABSTRACT

Melon is a widely consumed horticultural crop in Indonesia however, its productivity in the Special Region of Yogyakarta (DIY) has fluctuated. This study aims to examine the interaction between foliar fertilizer and boron application and to determine the optimal concentrations of foliar fertilizer and boron for the growth and yield of hydroponic melon plants grown on a substrate. The study was conducted at Plantasia Greenhouse in Sleman from October to December 2025. The research method employed a field experiment designed using a *Split-Plot Design*. The main plots consisted of two levels of foliar fertiliser concentration (3 and 5 g/L) and the sub-plots of comprised four boron concentration levels (0,2; 0,3; 0,4 dan 0,5 ppm). Each treatment combination was replicated three times. The research data were analysed using a 5% ANOVA, followed by a BNT test at the 5% level. The results of the study indicate an interaction between foliar fertilizer and boron fertilizer treatments on fruit weight, flesh thickness, fruit circumference and total sugar content in the treatment combination of 5 g/L foliar fertilizer and 0.4ppm boron fertilizer. The foliar fertilizer treatment at a concentration of 5 g/L showed the best results for fruit weight, fruit flesh thickness, and total sugar content. The boron fertilizer treatment at a concentration of 0.4ppm showed the best results for fruit weight, fruit circumference, fruit flesh thickness, and total sugar content.

Keywords: Foliar Fertilizer, Boron, Substrate, Hydroponics, Melon