

PENGARUH STRAIN BAKTERI RIZOSFER TERHADAP PERTUMBUHAN DAN HASIL MELON (*Cucumis melo* L.)

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ABSTRAK

Tanaman melon (*Cucumis melo* L.) termasuk buah semusim yang termasuk dalam suku *Cucurbitaceae*. Produksi melon masih belum stabil, salah satu upaya untuk meningkatkan produksi melon yaitu dilakukannya pemupukan dengan menggunakan bakteri rizosfer tanah. Bakteri rizosfer yang digunakan yaitu bakteri penambat nitrogen, bakteri pelarut fosfat dan bakteri perombak bahan organik. Penelitian ini bertujuan untuk mengetahui strain bakteri rizosfer mana yang berpengaruh terhadap pertumbuhan dan hasil dari tanaman melon. Penelitian dilaksanakan di Laboratorium Mikrobiologi dan di *greenhouse* pada bulan November 2023 sampai Februari 2024. Penelitian menggunakan Rancangan Acak Kelompok dengan 7 perlakuan dan 4 kali ulangan. Yaitu : A (bakteri penambat nitrogen 30 ml/tanaman), B (bakteri pelarut fosfat 30 ml/tanaman), C (bakteri perombak bahan organik 30 ml/tanaman), D (bakteri penambat nitrogen 15 ml/tanaman + bakteri pelarut fosfat 15 ml/tanaman), E (bakteri penambat nitrogen 15 ml/tanaman + bakteri perombak bahan organik 15 ml/tanaman), F (bakteri pelarut fosfat 15 ml/tanaman + bakteri perombak bahan organik 15 ml/tanaman), G (bakteri penambat nitrogen 10 ml/tanaman + bakteri pelarut fosfat 10 ml/tanaman + bakteri perombak bahan organik 10 ml/tanaman). Data dianalisis dengan sidik ragam dan dilanjutkan dengan Uji Jarak Berganda Duncan pada taraf nyata 5%. Hasil penelitian menunjukkan bahwa strain bakteri bakteri penambat nitrogen 30 ml/tanaman berpengaruh terhadap jumlah daun tetapi tidak berpengaruh terhadap tinggi tanaman, bobot buah dan kadar gula.

Kata kunci : melon, bakteri penambat nitrogen, bakteri pelarut fosfat, bakteri penambat nitrogen.

EFFECT OF RHIZOSPHERIC BACTERIA STRAINS ON GROWTH AND YIELD OF MELON (*Cucumis melo* L.)

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ABSTRACT

The melon plant (*Cucumis melo* L.) is an annual fruit belonging to the Cucurbitaceae family. Melon production is still unstable, one effort to increase melon production is to fertilize using soil rhizosphere bacteria. The rhizosphere bacteria used are nitrogen fixing bacteria, phosphate solubilizing bacteria and organic material decomposing bacteria. This research aims to determine which strains of rhizosphere bacteria influence the growth and yield of melon plants. The research was carried out in the Microbiology Laboratory and in the greenhouse from November 2023 to February 2024. The research used a Randomized Block Design with 7 treatments and 4 replications. Namely: A (nitrogen fixing bacteria 30 ml/plant), B (phosphate solubilizing bacteria 30 ml/plant), C (organic material decomposing bacteria 30 ml/plant), D (nitrogen fixing bacteria 15 ml/plant + 15 phosphate solubilizing bacteria ml/plant), E (nitrogen fixing bacteria 15 ml/plant + organic matter decomposing bacteria 15 ml/plant), F (phosphate solubilizing bacteria 15 ml/plant + organic matter decomposing bacteria 15 ml/plant), G (nitrogen fixing bacteria 10 ml/plant + phosphate solubilizing bacteria 10 ml/plant + organic matter decomposing bacteria 10 ml/plant). Data were analyzed using variance and followed by Duncan's Multiple Range Test at a significance level of 5%. The results showed that the nitrogen-fixing bacterial strain of 30 ml/plant had an effect on the number of leaves but had no effect on plant height, fruit weight and sugar content.

Key words: melon, nitrogen fixing bacteria, phosphate solubilizing bacteria, nitrogen fixing bacteria