ABSTRAK

Respon Pertumbuhan dan Hasil Tanaman Stroberi (*Fragaria* sp.) pada Berbagai Konsentrasi Kalium dan Giberelin dengan Hidroponik NFT

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Salah satu produk hortikultura yang masih rendah produksinya di Indonesia adalah buah stroberi. Stroberi merupakan tanaman budidaya di negara beriklim subtropis. Sementara itu, iklim Indonesia yang panas, yang tidak sesuai dengan kondisi alami pertumbuhan stroberi yaitu iklim dingin, sehingga budidaya stroberi hanya terbatas ada daerah dataran tinggi yang masih terpengaruh iklim tropis di Indonesia. Penelitian ini bertujuan untuk mengetahui respon pertumbuhan dan hasil tanaman stroberi pada berbagai konsentrasi Kalium dan Giberelin dengan metode hidroponik NFT (*Nutrient Film Technique*). Penelitian dilaksanakan di rumah plastik yang berada di dusun Kregan, Wukirsari, Cangkringan, Kabupaten Sleman dengan ketinggian ±500 mdpl. Penelitian menggunakan percobaan lapangan dengan *Split Plot Design* faktorial 3 x 3 dengan 3 ulangan masing-masing ulangan sejumlah 8 tanaman . Sebagai *main plot* yaitu konsentrasi Kalium terdiri atas 3 perlakuan (200, 300, dan 400 ppm) dan *sub plot* konsentrasi Giberelin terdiri atas 3 perlakuan (0, 25, dan 50 mg/l). Parameter pertumbuhan yang diamati yaitu tinggi tanaman (2, 4, dan 6 MST), luas daun (2, 4, 6 MST), bobot kering (2, 4, dan 6 MST), panjang akar (2, 4, dan 6 MST), dan volume akar (2, 4, dan 6 MST). Sementara parameter hasil yang diamati yaitu jumlah bunga, jumlah buah, bobot buah, kekerasan buah, diameter buah, dan kandungan vitamin C buah 6 MST. Hasil perhitungan menunjukkan kombinasi perlakuan konsentrasi Kalium 200 ppm (K1) dan Giberelin 50 mg/l (G3) dan kombinasi perlakuan Kalium 300 ppm (K2) dan Giberelin 25 mg/l (G2) memberikan hasil terbaik pada kandungan vitamin C buah. Perlakuan konsentrasi Kalium 400 ppm (K3) berpengaruh nyata pada bobot buah total per tanaman, dan diameter buah 6 MST. Sementara perlakuan konsentrasi Giberelin berpengaruh nyata pada jumlah bunga total per tanaman, jumlah buah total per tanaman, dan kekerasan buah.

Kata kunci : Stroberi, hidroponik, Kalium, Giberelin

ABSTRACT

The Response of Growth and The Yield of Strawberries (*Fragaria* sp.) at The Various Concentrations of Potassium and Gibberellins with NFT Hydroponics

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One of the horticultural products which is still in low production is strawberries. Strawberries are cultivated plants in subtropical climates. Meanwhile, the tropical climate of Indonesia is not in line with the natural conditions of strawberry growth. They grow in a cold weather, so that strawberry cultivation is only limited to highland areas which are still affected by the tropical climate in Indonesia. This study aims to determine the response of growth and the yield of strawberries at the various concentrations of Potassium and Gibberellins with the NFT (Nutrient Film Technique) hydroponics method. The study was conducted in a plastic house located in Kregan Hamlet, Wukirsari, Cangkringan, Sleman Regency. The plastic house has a height of ± 500 meters above sea level. The study used a field experiment with factorial Split Plot Design 3 x 3 with 3 replications. Each replication has 8 plants. As the main plot, the concentration of potassium consists of 3 treatments (200, 300, and 400 ppm), and the sub-plot of the giberellin concentration consists of 3 treatments (0, 25, and 50 mg/l). The growth parameters observed were the plant height (2, 4, and 6 MST), the leaf area (2, 4, 6 MST), the dry weight (2, 4, and 6 MST), the root length (2, 4, and 6 MST), and the root volume (2, 4, and 6 MST). Meanwhile, the parameters observed were the number of flowers, the number of fruits, the fruit weight, the fruit hardness, the fruit diameter, and the vitamin C of fruit 6 MST. Based on the analysis results, the treatment combination of the concentration of Potassium and Gibberellins shows that there is an interaction in the vitamin C of fruit. The treatment of potassium concentration significantly affected the plant height of MST, the dry weight of 6 MST, the total fruit weight per plant, the fruit diameter of 6 MST, and the vitamin C of fruit. Meanwhile, the treatment of Gibberellins concentration significantly affected the number of flowers of 6 MST, the number of fruits of 6 MST, the hardness of fruit, and the vitamin C of fruit.

Keywords: Strawberries, Hydroponics, Potassium, Gibberellins