

ABSTRAK

ANALISIS PROFIL PROTEIN DAN KARAKTER SPESIFIK ANGGREK *Cattleya* sp. SETELAH PEMBERIAN ASAM FUSARAT SECARA *IN VITRO*

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Salah satu jenis tanaman anggrek yang banyak diminati adalah anggrek *Cattleya* sp. Sayangnya tanaman anggrek sering mendapatkan serangan penyakit busuk lunak yang disebabkan oleh patogen berupa jamur *Fusarium oxysporum*. Pengendalian penyakit layu *Fusarium* biasanya dilakukan hanya dengan menggunakan fungisida kimia, namun penggunaan fungisida ini masih belum efektif dalam mengendalikan penyakit tersebut dan dapat berdampak buruk bagi lingkungan. Metode seleksi *in vitro* dapat digunakan untuk mendapatkan tanaman dengan sifat yang diinginkan yaitu dengan menggunakan komponen penyeleksi berupa toksin murni seperti asam fusarat. Asam fusarat, merupakan racun murni dari *Fusarium oxysporum*. Penelitian ini dilakukan bertujuan untuk mengetahui pengaruh pemberian Asam Fusarat terhadap profil protein dan karakteristik Anggrek *Cattleya* sp berupa kandungan gula reduksi dan fenol total. Penelitian dilakukan dengan menggunakan metode Rancangan Acak Lengkap (RAL), dengan lima taraf perlakuan dan setiap taraf dilakukan lima ulangan. Perlakuan terdiri atas penambahan Asam Fusarat dengan konsentrasi asam fusarat dalam medium: 0 ppm, 10 ppm, 20 ppm, 30 ppm dan 40 ppm. Data yang diperoleh dianalisis ragam ANOVA. Analisis ragam dilakukan pada taraf nyata 5% dan uji lanjut dengan uji Tukey pada taraf nyata 5%. Berdasarkan hasil analisis yang dilakukan terdapat peningkatan kadar gula reduksi dari 119,882% pada kontrol sampai 150,709% pada konsentrasi 40 ppm. Sedangkan fenol total meningkat dari 36,534 mgGAE/g pada kontrol sampai 45,468 mgGAE/g pada konsentrasi 40 ppm. Pada pita protein belum menunjukkan adanya penambahan atau pengurangan pita protein setelah dianalisis dengan metode SDS – PAGE.

Kata kunci: Asam Fusarat, *Cattleya* sp, Fenol, Gula Reduksi, Profil Protein

ABSTRACT

ANALYSIS OF PROTEIN PROFILE AND SPECIFIC CHARACTER OF THE ORCHID OF *Cattleya* sp. AFTER IN VITRO ADMINISTRATION OF FUSARIC ACID

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One type of orchid that is in great demand is the *Cattleya* sp. Unfortunately, orchids often suffer from soft rot disease caused by a pathogen in the form of the fungus *Fusarium oxysporum*. *Fusarium* wilt disease control is usually carried out only by using chemical fungicides, but the use of these fungicides is still not effective in controlling the disease and can have a negative impact on the environment. In vitro selection method can be used to obtain plants with the desired properties by using a selector component in the form of pure toxins such as fusaric acid. Fusaric acid, is a pure poison from *Fusarium oxysporum*. This research was conducted to determine the effect of Fusaric Acid on the protein profile and characteristics of the *Cattleya* sp Orchid in the form of reducing sugar content and total phenol. The study was conducted using a Completely Randomized Design (CRD) method, with five levels of treatment and five replications for each level. The treatment consisted of the addition of Fusaric Acid with the final concentration of fusaric acid in the medium: 0 ppm, 10 ppm, 20 ppm, 30 ppm and 40 ppm. The data obtained were analyzed by ANOVA variance. Analysis of variance was carried out at the 5% significance level and further test with the Tukey test at 5% significance level. Based on the results of the analysis carried out there was an increase in reducing sugar levels of 119.882% in the control to 150.709% at a concentration of 40 ppm. Meanwhile, total phenol increased from 36.534 mgGAE/g in the control to 45.468 mgGAE/g at a concentration of 40 ppm. The protein bands have not shown any addition or reduction of protein bands after being analyzed by the SDS – PAGE method.

Keywords: *Cattleya* sp, Fusaric Acid, Phenol, Protein Profile, Reducing Sugar