

ABSTRAK

ANALISIS PROFIL PROTEIN DAN UJI PENENTUAN KONSENTRASI PROTEIN DAUN TANAMAN CASSAVA (*Manihot esculenta* Crantz) SETELAH DIINDUKSI DENGAN ASAM SALISILAT

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Cassava (*Manihot esculenta* Crantz) merupakan tanaman penting di Indonesia sebagai sumber karbohidrat. Cassava sering kali mendapatkan gangguan patogen salah satunya yaitu penyakit layu fusarium. Pengendalian penyakit layu fusarium dapat dilakukan dengan penggunaan kultivar unggul yang resisten melalui pengimbasan asam salisilat. Tujuan penelitian ini adalah untuk mengetahui nilai konsentrasi protein dan menganalisis profil protein pada tanaman cassava antara cassava yang telah diberi pengimbasan asam salisilat dengan kontrol. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan satu faktor, yaitu penambahan asam salisilat yang dibagi atas 5 taraf konsentrasi, yaitu 0 ppm, 80 ppm, 100 ppm, 120 ppm, dan 140 ppm. Masing – masing dari konsentrasi tersebut dilakukan pengulangan sebanyak 5 kali, dan pada setiap ulangan terdiri atas 1 tanaman cassava. Data penelitian berupa data kualitatif dan data kuantitatif. Data kualitatif disajikan dalam bentuk deskriptif komparatif yang didukung dengan foto sedangkan data kuantitatif dianalisis menggunakan *Statistical Package for the Social Sciences* (SPSS) dengan metode *Analysis of Variance* (ANOVA). Apabila terdapat beda nyata dilanjutkan dengan Uji *Duncan's Multiple Range Test* (DMRT) 5%. Hasil penelitian menunjukkan beda nyata pada konsentrasi asam salisilat 80 ppm, 100 ppm, 120 ppm, dan 140 ppm setelah dibandingkan dengan kontrol. Taraf konsentrasi protein 0 ppm sampai 140 ppm berturut turut adalah 0,370 mg/2 µl, 0,372 mg/2µl, 0,377 mg/2 µl, 0,373 mg/2 µl, dan 0, 369 mg/2 µl. Serta terdapat pita protein hilang (*missing band*) yaitu pita pada berat molekul 115 kDa (perlakuan konsentrasi asam salisilat 140 ppm), dan juga ada kemunculan satu pitabar (new band) yaitu pada berat molekul 85 kDa (perlakuan konsentrasi asam salisilat 100 ppm).

Kata kunci : Asam salisilat, Cassava, Profil protein, *In vivo*, *Induced resistance*

ABSTRACT

PROTEIN PROFILE ANALYSIS AND CONCENTRATION DETERMINATION TEST LEAF PROTEIN OF CASSAVA PLANT (*Manihot esculenta* Crantz) AFTER INDUCED WITH SALICYLIC ACID

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Cassava (*Manihot esculenta* Crantz) is an important plant in Indonesia as a source of carbohydrates. Cassava often suffers from pathogenic disorders, one of which is fusarium wilt. Control of fusarium wilt disease can be done by using superior cultivars that are resistant through the use of salicylic acid. The aim of this research was to determine the protein concentration value and analyze the protein profile in cassava plants between cassava that had been treated with salicylic acid and the control. This research used a Completely Randomized Design (CRD) with one factor, namely the addition of salicylic acid which was divided into 5 concentration levels, namely 0 ppm, 80 ppm, 100 ppm, 120 ppm, and 140 ppm. Each of these concentrations was repeated 5 times, and each repetition consisted of 1 cassava plant. Research data consists of qualitative data and quantitative data. Qualitative data is presented in comparative descriptive form supported by photos, while quantitative data is analyzed using the *Statistical Package for the Social Sciences (SPSS) with the Analysis of Variance (ANOVA)* method. If there is a significant difference, continue with *Duncan's Multiple Range Test (DMRT)* 5%. The results of the study showed a significant difference in salicylic acid concentrations of 80 ppm, 100 ppm, 120 ppm, and 140 ppm after being compared with the control. The protein concentration levels from 0 ppm to 140 ppm are respectively 0.370 mg/2 µl, 0.372 mg/2 µl, 0.377 mg/2 µl, 0.373 mg/2 µl, and 0.369 mg/2 µl. There was also a missing protein band, namely a band at a molecular weight of 115 kDa (treatment with a salicylic acid concentration of 140 ppm), and there was also the appearance of a new band, namely a molecular weight of 85 kDa (treatment with a salicylic acid concentration of 100 ppm).

Keywords: Salicylic acid, Cassava, Protein profile, *In vivo*, *Induced resistance*