

PROFIL PROTEIN ULAT SAGU (*Rhynchophorus ferrugineus*) HASIL PEMANGGANGAN DENGAN OVEN DAN MICROWAVE DENGAN VARIASI WAKTU BERBASIS SDS-PAGE

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ABSTRAK

Ulat sagu (*Rhynchophorus ferrugineus*) adalah sumber protein hewani yang khas dari papua dan memiliki kandungan protein cukup tinggi. Salah satu kelemahan ulat sagu sebagai bahan makanan adalah mudah membusuk. Untuk menghindari pembusukan dapat dilakukan pengawetan dengan cara pemanggangan dengan oven dan *microwave*, namun pengaruh proses pemanasan terhadap kerusakan proteinnya perlu diselidiki. Tujuan penelitian ini adalah untuk menganalisis profil protein ulat sagu yang dipanggang dengan oven dan *microwave* dengan variasi waktu. Metode untuk analisis profil protein menggunakan SDS-PAGE. Sampel yang digunakan adalah 13 ekor ulat sagu. Satu kontrol, 6 ekor dipanggang dengan oven (1, 2, 3 menit), 6 ekor dipanggang dengan *microwave* (1, 2, 3 menit). Hasil penelitian menunjukkan sampel kontrol memiliki jumlah total pita protein terbanyak yaitu 26 yang berbeda dengan jumlah total pita sampel setelah pemanggangan dengan oven dan *microwave*. Total pita protein sampel ulat yang telah dipanggang dengan oven selama 1 menit total 17 pita protein, 2 menit total 20 pita protein, dan 3 menit total 10 pita protein. Pada sampel ulat sagu yang dipanggang dengan *microwave* selama 1 menit total 16 pita protein, 2 menit total 11 pita protein dan 3 menit total 12 pita protein. Hasil penelitian juga menunjukkan bahwa semakin lama waktu pemanggangan, baik dengan oven maupun *microwave*, semakin tinggi tingkat denaturasi protein pada sampel ulat sagu. Hal ini ditandai semakin banyak pita protein pada ukuran berat molekul yang semakin kecil.

Kata kunci : **Pemanggangan oven, pemanggangan *microwave*, Ulat sagu, SDS-PAGE**

SDS-PAGE Based Protein Profile of Sago Larvae (*Rhynchophorus ferrugineus*) Heated Using Oven and Microwave at Varied Time Length

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ABSTRACT

Sago larvae (*Rhynchophorus ferrugineus*) is a source of animal protein originated from Papua, which has a high protein content. One of the disadvantages of sago larvae as a food ingredient is that it decomposes easily. To avoid decay, preservation could be done by heating with an oven and microwave, but the influence of the heating process to the quality of protein needs to be investigated. The purpose of this study was to analyze the profile of sago larvae protein baked in an oven and microwave with a time variation of sago larvae. The method used was SDS-PAGE (*Sodium Dodecyl Sulfate–Polyacrylamide Gel Electrophoresis*). The samples used were 13 sago larvae. Alarvae sample was used as a control and was not roasted with an oven and microwave, 6 larvae were baked with an oven with a variation of time 1, 2 and 3 minutes then the other 6 were roasted by microwave with a time variation of 1, 2 and 3 minutes. The results showed that sago larvae as a control had a number of protein bands 26, unlike the protein bands after baking with an oven and microwave. Larvae that have been baked in the oven for 1 minute found 17 protein bands, 20 protein bands were found for 2 minutes, and for 3 minutes were found 10 protein bands. Whereas in the sago larvae sample which was baked in the microwave for 1 minute found 16 protein bands, for 2 minutes found 11 protein bands and for 3 minutes found 12 protein bands. These results indicated the longer the heating time, the higher the level of protein denaturation. This marked by more protein bands on protein profile with smaller molecular weight values.

Keywords: roasting, sago larvae, SDS-PAGE