

**PENGARUH pH DAN LAMA INKUBASI TERHADAP EKSTRAKSI
PROTEIN TEPUNG KULIT UDANG BEBAS MINERAL
OLEH MIKROBIA PROTEOLITIK**

Irfani Kurniawati Hermanto
00/139992/PT/03998

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pH dan lama inkubasi terhadap ekstraksi protein dengan cara deproteinasi tepung kulit udang bebas mineral menggunakan mikrobia proteolitik. Mikrobia proteolitik diisolasi dari tanah disekitar tambak udang (Isolat Bkl) yang mempunyai aktivitas protease tertinggi sebesar 0,184 U/mg. Rancangan yang digunakan adalah rancangan acak lengkap pola faktorial dengan 2 faktor dan 3 replikasi dan variabel yang berbeda nyata dilanjutkan dengan uji DMRT (*Duncan's Multiple Range Test*). Deproteinasi dilakukan dengan perlakuan pH 5,0, 5,5, 6,0, 6,5, 7,0 dan 7,5, lama inkubasi 1, 3 dan 5 hari pada suhu 35°C. Variabel yang diamati meliputi kadar protein dan asam amino. Hasil penelitian menunjukkan bahwa perlakuan lama inkubasi dan pH memberikan pengaruh yang nyata ($P < 0,05$) terhadap kadar protein dan asam amino. Perlakuan pH terbaik untuk menghasilkan rata-rata kadar protein (0,66 mg/ml) dan asam amino (0,67 mg/ml) adalah pada pH 7,5. Perlakuan lama inkubasi yang baik untuk memperoleh rata-rata protein tertinggi (0,55 mg/ml) adalah selama 3 hari, dan untuk memperoleh rata-rata asam amino tertinggi (0,63 mg/ml) adalah selama 1 hari. Dari hasil penelitian ini dapat diketahui bahwa deproteinasi tepung kulit udang bebas mineral menggunakan mikrobia proteolitik mampu membebaskan protein dan asam amino.

Kata kunci: Mikrobia proteolitik, ekstraksi protein, tepung kulit udang bebas mineral

**THE EFFECT OF pH AND INCUBATION TIME ON PROTEIN
EXTRACTION OF SHRIMP SHELL MEAL NON-MINERAL
BY PROTEOLYTIC MICROBIA**

Irfani Kurniawati Hermanto
00/139992/PT/03998

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ABSTRACT

The objective of this study was to find out the effect of pH and incubation time on protein extraction's shrimp shell meal non-mineral products by deproteination with proteolytic microbia with pH and incubation time treatments. Proteolytic microbia from the soil taken from the shrimp dam area (Bkl Isolate) which had highest protease spesific activity (0.184 U/mg). The experiment was designed on a Completely Randomized Design with 2 factors and 3 replications. Duncan's Multiple Range Test (DMRT) was used for further ANOVA test. The observation was done at the medium pH at 5,0, 5,5, 6,0, 6,5, 7,0 and 7,5, time incubation at 1, 3 and 5 days, and also at the incubation temperature of 35°C. Variables observed included protein and amino acid. The results showed that there were significant differences ($P < 0,05$) between the pH and incubation time levels on values of protein and amino acid. The pH treatments results the highest values of protein (0,66 mg/ml) and amino acid ((0,67 mg/ml) was observed at pH 7,5. Incubation time treatments results the highest values of protein (0,55 mg/ml) was observed at 3 days, and for highest values of amino acid (0,63 mg/ml) was observed at 1 day. It was conclude that the deproteination by proteolytic microbial of shrimp meal non-mineral products could free the protein and amino acids.

Key word: Proteolytic microbia, protein extraction, shrimp shell meal non-mineral