KONSENTRASI PROTEIN MIKROBIA HASIL FERMENTASI MENGGUNAKAN ISOLAT KHITINOLITIK TERHADAP TEPUNG KULIT UDANG YANG TELAH DIPERLAKUKAN PADA SUHU BERBEDA

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemanasan tepung kulit udang terhadap kadar NH_3 dan protein mikrobia hasil ferrmentasi dengan menggunakan isolat khitinolitik. Tepung kulit udang sebagai substrat dibagi dalam 6 kelompok perlakuan. Setiap perlakuan terdiri dari 5 ulangan. Keenam perlakuan tersebut adalah T-l (pemanasan pada suhu 36° C), T-2 (pemanasan pada suhu 72° C), T-3 (pemanasan pada suhu 108° C), T-4 (pemanasan pada suhu 144° C) dan T-5 (pemanasan pada suhu 180° C) dan To sebagai kontrol (tanpa pemanasan). Variabel yang diamati adalah kadar NH_3 dan protein mikrobia. Data yang diperoleh dianalisis dengan menggunakan rancangan acak lengkap pola searah dan apabila ada perbedaan nyata dilanjutkan dengan uji *Duncan's MultipleRange Test* (DMRT). Hasil analisis menunjukkan bahwa kadar NH_3 berbeda nyata ($P<0,05$). Rata-rata kadar NH_3 untuk T-l, T-2, T-3, T-4 dan T-5 adalah 75,42; 80,99; 87,58; 87,63 dan 88,20 (mg/ 100ml). Kadar protein mikrobia juga menunjukkan perbedaan yang nyata ($P<0,05$). Rata-rata kadar protein mikrobia untuk Tl, T2 T3, T4 dan T5 adalah 0,08; 0,12; 0,13; 0,13; 0,ll(mg/ ml). Berdasarkan hasil penelitian ini dapat disimpulkan bahwa pemanasan tepung kulit udang mulai suhu 108° C dapat meningkatkan kadar NH_3, dan protein mikrobia secara nyata.

(Kata kunci : mikrobia khitinolitik, tepung kulit udang, protein mikrobia, NH_3, pemanasan).

CONSENTRATION OF AMMONIA AND MICROBIAL PROTEIN RESULTED FROM FERMENTATION OF SHRIMP SKIN MEAL USING CHITINOLYTIC ISOLATES

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ABSTRACT

The study was conducted to see the effect of different temperature on the concentration of ammonia and microbial protein resulted from fermentation of shrimp skin meal using chitinolytic isolates. The shrimp skin meal is the substrates were allocated into six group of heat treatments of six diferrent temperatures.To referring to control, the substrate underwent no heat treatment.before being fermented .Ti underwent 36° C heating, T_2 referrring to *12*° C heating, T_3 to 108° C, T_4 to 144° C and T_5 to 180° C heating. Each group of substrate was fermented using chitinolytic isolates, the variable being recorded were those of the ammonia and microbial concentration. The data obtained were analysed using One Way Analysis of Variance of Completely Randomised Design. Differences between means were tested using Duncan's Multiple Range Test (DMRT).The results indicated that the ammonia concentrations were significantly different ($p<0.05$) between treatments with the values of 7.42 mg/ 100ml for Ti, T_2 had the value of 60.99 mg/ 100ml, T_3 had 87.58 mg/ 100ml, T_4 had 87.63 mg/lOOml and T_5 had the value of 88.20 mg/100ml. Microbial protein were also significantly different between treatments with the values of 0.08 mg/ml,0.12 mg/ml,0.13 mg/ml,0.13 mg/ml and 0.llmg/ml($p<0.05$). It was cocluded that heat treatment starting from 108° C up to 180° C increased ammonia consentration as well as microbial protein.

Key word : Chitinolytic microbes, shrimp skin meal, heating, microbial protein, ammonia