

**KONSENTRASI AMONIA DAN PROTEIN TERLARUT  
KHITIN KEPALA UDANG DAN BUNGKIL KEDELAI  
YANG DIANALISIS SECARA IN VITRO**

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**INTXSARI**

Penelitian ini bertujuan untuk mengetahui konsentrasi amonia dan protein terlarut khitin kepala udang dan bungkil kedelai yang dianalisis secara *in vitro*. Sampel bahan pakan yang digunakan adalah khitin kepala udang windu (*Panaeus monodon*) (KKU) dan bungkil kedelai (BK). Penelitian yang dilakukan terdiri dari tiga perlakuan yaitu A<sub>1</sub> (100% KKU: 0% BK), A<sub>2</sub> (50% KKU: 50% BK), dan A<sub>3</sub> (0% KKU: 100% BK). Penelitian ini menggunakan rancangan acak lengkap faktorial dengan empat ulangan. Variabel yang diamati adalah konsentrasi amonia (NH<sub>3</sub>) dan konsentrasi protein terlarut. Pengambilan sampel untuk analisis NH<sub>3</sub> dan protein terlarut dilakukan pada jam ke 0, 12, 24, 36, 48, 60, dan 72. Data yang diperoleh diuji dengan analisis variansi dan dilanjutkan dengan uji *Duncans multiple range test* jika ada perbedaan yang nyata. Hasil penelitian menunjukkan bahwa konsentrasi amonia dan protein terlarut untuk perlakuan A<sub>1</sub>, A<sub>2</sub>, dan A<sub>3</sub> berturut-turut adalah 18,99; 34,37; 49,38 (mg/100ml) dan 1,90; 2,06; 2,24 mg/ml). Hasil penelitian ini dapat disimpulkan pada masing-masing perlakuan dengan persentase khitin kepala udang yang semakin besar tidak meningkatkan konsentrasi amonia dan protein terlarut. Tetapi rata-rata konsentrasi amonia penelitian masih diatas kebutuhan minimum mikrobia rumen sehingga aktivitas mikrobia tidak terganggu. Untuk pertumbuhan maksimum dan aktivitas mikrobia, diperlukan konsentrasi NH<sub>3</sub> cairan rumen sebesar 5 - 23,5 mg/100 ml.

(Kata Kunci : Konsentrasi Protein Terlarut, Amonia, Khitin Kepala Udang, *In Vitro*)

CONCENTRATION OF AMMONIA AND SOLUBLE PROTEIN  
FROM CHITIN OF SHRIMP'S HEAD AND SOYBEAN MEAL  
ANALYZED BY IN VITRO METHOD

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ABSTRACT

The objective of this experiment was to determine the concentration of ammonia and soluble protein from chitin of shrimp head and soybean meal that was done by in vitro analysis. The experimental design was of randomized design of factorial with four replication. Sample of feedstuff used was chitin of shrimp head (MS) and meal of soybean (MB). The conducted research was consisted of three treatments of feed, i. e. , A<sub>1</sub> (100%CHS: 0% MB), A<sub>2</sub> (50% CHS: 50% MB), and A<sub>3</sub> (0% CHS: 100% MB). Data were collected the concentration of ammonia (NH<sub>3</sub>) and concentration of soluble protein. Sampling for analysis NH<sub>3</sub> and soluble protein is held on certain time i.e., 0<sup>th</sup>, 12<sup>th</sup>, 24<sup>th</sup>, 36<sup>th</sup>, 48<sup>th</sup>, 60<sup>th</sup>, and 72<sup>nd</sup>. The data collected was tested by using variance analysis and followed by using Duncan's multiple range test if it was found a significant difference. The result of this research indicated that the concentration ammonia and of soluble protein for treatment of 18,99; 34,37; 49,38 (mg/100ml) and A<sub>3</sub>, A<sub>2</sub> and A<sub>1</sub> is 1,90; 2,06; 2,24 mg/ml). It could be concluded that concentration of ammonia and soluble protein from chitin of shrimp's head that becomes higher and decrease the concentration of ammonia and soluble protein. But the concentration of ammonia still exceeds the minimum requirement. Requirement for the optimum microorganism growth that was 5 - 35 mg/100ml.

(Key Words : Concentration of soluble protein, Ammonia, chitin of shrimp head, In Vitro)