

**KONSENTRASI PROTEIN MIKROBIA DAN AMONIA DARI FERMENTASI
CAMPURAN BEKATUL DAN KITIN KEPALA UDANG YANG BERBEDA OLEH
MIKROBIA RUMEN KERBAU SECARA IN VITRO**

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INTISARI

Penelitian ini bertujuan untuk mengetahui konsentrasi protein mikrobial dan amonia dari campuran kitin kepala udang windu dan bekatul yang berbeda pada cairan rumen kerbau secara *in vitro*. Sampel bahan pakan yang digunakan adalah tepung kitin kepala udang windu (TU) dan bekatul (BKT). Penelitian ini menggunakan lima macam perlakuan yaitu P1 (100%TU : 0%BKT), P2 (75%TU : 25%BKT), P3 (50%TU : 50%BKT), P4 (25%TU : 75%BKT), dan P5 (0%TU : 100%BKT). Pengambilan sampel untuk analisis protein mikrobial dan amonia dilakukan pada jam ke-0 dan ke-48. Data yang diperoleh dianalisis dengan analisis variansi rancangan acak lengkap pola faktorial (5X2), data yang diperoleh dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa konsentrasi protein mikrobial dan amonia untuk perlakuan P1, P2, P3, P4, dan P5 berturut - turut adalah 8,110; 8,287; 9,473; 11,816; dan 11,841 (mg/ml cairan rumen); dan 6,001; 14,096; 10,512; 12,072, dan 9,901 (mg/100 ml cairan rumen). Hasil analisis variansi menunjukkan perbedaan yang nyata ($P < 0,05$) antara waktu inkubasi 0 jam dengan 48 jam terhadap konsentrasi protein mikrobial dan amonia, antar masing - masing perlakuan serta pada interaksi antara waktu inkubasi dan perlakuan terhadap konsentrasi protein mikrobial dan amonia juga terdapat perbedaan yang nyata ($P < 0,05$). Dari hasil penelitian ini dapat disimpulkan bahwa konsentrasi protein mikrobial tidak meningkat dengan makin tingginya level penggunaan kitin sedang amonia dengan penggunaan kitin sebanyak 75%, 50% dan 25% konsentrasi amonia meningkat. Konsentrasi amonia dalam penelitian masih berada di atas kebutuhan minimum bagi pertumbuhan dan aktifitas sehingga kitin dapat dimanfaatkan sebagai pakan alternatif ternak ruminansia.

Kata Kunci : Kerbau, Bekatul, Kitin Kepala Udang, Protein Mikrobial, Amonia, In Vitro.

**CONCENTRATION OF MIKROBIAL PROTEIN AND AMMONIA FROM
FERMENTATION FROM A DIFFERENCE MIXTURE OF RICE POLISHINGS
AND CHITIN FROM SHRIMP HEAD BY BUFFALO RUMEN MICROBIAL IN
IN VITRO**

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ABSTRACT

The objective of the research was to know the concentration of microbial protein and ammonia from a difference mixture of chitin isolated from windu shrimp head (*Penaeus monodon*) and rice polishings in *in vitro* digested with buffalo rumen liquid. Sample of feedstuff used was chitin meal of windu shrimp head (CS) and rice polishings (P). The conducted research was consisted of five combination treatments of feed, i.e., P1(100%CS:0%P), P2(75%CS:25%P), P3(50%CS:50%P), P4(25%CS:75%P), and P5(0%CS : 100%P). Sampling for microbial protein analysis and ammonia was done on certain time, i.e., at the 0th and 48th hour of digested. The obtained data was analysis using variansi analysis completely randomized design of factorial pattern (5x2), and followed by using *Duncan's New Multiple Range Test (DMRT)*. The result of this research indicated that the concentration of microbial protein and ammonia for treatment of P1, P2, P3, P4, and P5 is 8.110, 8.287, 9.473, 11.816, and 11.841 (mg/ml), and 6.001, 14.096, 10.512, 12.072, and 9.901 (mg/100 ml) respectively. The result of variansi analysis indicated a significant differences (PC0.05) caused by different incubation time 0th and 48th on concentration of microbial protein and ammonia. Interaction between treatment factor was also found significant (PC0.05). From the result of this research it could be concluded that concentration microbial protein did not increase with the increasing levels of chitin but the use of 75%, 50%, and 25% increased the concentration of ammonia. The concentration of ammonia still exceeds the minimum requirement for activities and growth, it is therefore chitin can be useful as alternative feed for ruminant animals.

(Key Words : Buffalo, Meal Shrimp Head, Rice Polishings, Microbial Protein, Ammonia, , In Vitro.