

**KONSENTRASI AMONIA DAN PROTEIN MIKROBIA DALAM  
FERMENTASI CAMPURAN TEPUNG KEPALA UDANG DAN  
JAGUNG KUNING OLEH MIKROBIA RUMEN DOMBA**

**MADINA NURROHMAH  
98/118992/PT/03591**

**INTISARI**

Penelitian ini bertujuan untuk mengetahui konsentrasi amonia dan protein mikrobia dalam fermentasi campuran tepung kepala udang Windu (*Penaeus monodon*) dan jagung kuning yang berbeda oleh mikrobia rumen domba. Sampel bahan pakan yang digunakan dalam fermentasi adalah campuran tepung kepala udang Windu (TKU) dan tepung jagung kuning (TJ). Penelitian yang dilakukan terdiri dari lima perlakuan kombinasi pakan yaitu : P1 (100% TJ : 0% TKU), P2 (75% TJ : 25% TKU), P3 (50% TJ : 50% TKU), P4 (25% TJ : 75% TKU), dan P5 (0% TJ : 100% TKU). Pengambilan sampel untuk analisis amonia dan protein mikrobia dilakukan pada jam ke 0 dan 48. Data yang diperoleh dianalisis dengan analisis variansi rancangan acak lengkap pola faktorial (5x2) dan jika terdapat perbedaan variabel akibat perlakuan maka dilanjutkan dengan uji *Duncant's New Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa konsentrasi amonia dan protein mikrobia untuk perlakuan P1, P2, P3, P4, dan P5 berturut-turut adalah 30,778, 26,433, 25,102, 25,256, dan 22,916 (mg/100ml) dan 12,023, 9,724, 7,027, 7,039, dan 4,631 (mg/ml cairan rumen). Hasil penelitian juga menunjukkan perbedaan yang nyata ( $P < 0,05$ ) antara lama inkubasi 0 dan 48 jam terhadap konsentrasi amonia dan protein mikrobia, serta adanya interaksi antara kedua variabel tersebut terhadap lama inkubasi. Dari hasil penelitian dapat disimpulkan pada masing-masing perlakuan dengan semakin meningkatnya persentase tepung kepala udang menurunkan konsentrasi amonia dan protein mikrobia.

Kata kunci : Konsentrasi Amonia, Protein Mikrobia,  
Tepung Kepala Udang, Fermentasi.

**CONCENTRATION OF AMMONIA AND MICROBIAL PROTEIN ON  
MIXTURE OF MEAL OF SHRIMP HEAD AND YELLOW MAIZE  
FERMENTATION WITH RUMINAL MICROBIAL OF SHEEP**

**MADINA NURROHMAH  
98/118992/PT/03591**

**ABSTRACT**

The objective of this research was to know the concentration of ammonia and microbial protein from mixture of meal of Windu shrimp head (*Penaeus monodon*) and yellow maize fermentation with ruminal microbial of sheep. Sample of feedstuff used was meal of yellow maize (YM) and meal of Windu shrimp head (MS) taken from *invitro* digestibility test. The conducted research was consisted of five combination of feed, i.e., P1 (100% YM : 0% MS), P2 (75% YM : 25% MS), P3 (50% YM : 50% MS), P4 (25% YM : 75% MS), dan P5 (0% YM : 100% MS). The variable analyzed was the concentration of ammonia and microbial protein. Sampling for ammonia and microbial protein was done at certain time at 0<sup>th</sup> and 48<sup>th</sup> hour digestion. The experiment used completely randomized design factorial (5x2). It was continued by using Duncan's New Multiple Range Test (DMRT) if there was significant differences. The result of this research indicated that the concentration of ammonia and microbial protein for combination P1, P2, P3, P4, and P5 were 30,778, 26,433, 25,102, 25,256, and 22,916 (mg/100ml), and 12,023, 9,724, 7,027, 7,039, and 4,631 (mg/ml rumen fluids) respectively. The result showed that significant effect ( $P < 0,05$ ) on concentration of ammonia and microbial protein 0<sup>th</sup> and 48<sup>th</sup> hours were noticed significant, so were the interaction between treatment factor. It could be concluded that on each treatment with bigger percentages of meal of shrimp head reduced the concentration of ammonia and microbial protein.

(Key words : Concentration of Ammonia, Microbial Protein, Shrimp Head Meal, Fermentation.