ABSTRAK

Hendrik Putra Wahyu Prakoso. Konsentrasi N-NH_3 dan sintesis protein mikroba cairan rumen domba ekor tipis yang diberi kulit ari kedelai amoniasi sebagai pengganti konsentrat. Penelitian bertujuan untuk mengetahui pengaruh subtitusi konsenrat menggunakan kulit ari kedelai amoniasi terhadap produk fermentasi rumen domba ekor tipis. Metode yang digunakan adalah *experimental in vitro*, dilaksanakan di Laboratorium Ilmu Nutrisi dan Makanan, Ternak Fakultas Peternakan serta di Laboratorium Riset Universitas Jenderal Soedirman. Rancangan penelitian yang digunakan adalah rancang acak lengkap (RAL). Sampel yang diuji terdiri dari lima perlakuan yaitu P1 (Rumput Odot 40% + Konsentrat 60% + Tepung Kulit Ari Kedelai 0% sebagai kontrol), P2 (Rumput Odot 40% + Konsentrat 40% + Tepung Kulit Ari Kedelai 20%), P3 (Rumput Odot 40% + Konsentrat 20% + Tepung Kulit Ari Kedelai 40%), P4 (Rumput Odot 40% + Konsentrat 40% + Tepung Kulit Ari Kedelai Amoniasi 20%) dan P5 (Rumput Odot 40% + Konsentrat 20% + Tepung Kulit Ari Kedelai Amoniasi 40%), setiap perlakuan diulang sebanyak empat kali sehingga terdapat 20 unit percobaan. Peubah yang diamati adalah konsentrasi N-NH_3 dan sintesis protein mikroba (SPM). Hasil uji *orthogonal contrast* menunjukkan bahwa konsentrasi N-NH_3 cairan rumen tanpa penambahan kulit ari kedelai lebih rendah dibanding dengan penambahan kulit ari kedelai ($P<0,01$). Konsentrasi N-NH_3 cairan rumen dengan penambahan kulit ari kedelai tanpa amoniasi lebih rendah dibanding dengan penambahan kulit ari kedelai amoniasi ($P<0,01$). Konsentrasi N-NH_3 cairan rumen domba dengan penambahan kulit ari kedelai tanpa amoniasi 20% lebih rendah dibanding dengan penambahan kulit ari kedelai tanpa amoniasi 40% ($P<0,01$). Konsentrasi N-NH_3 cairan rumen domba dengan penambahan kulit ari kedelai amoniasi 20% lebih rendah dibanding dengan penambahan kulit ari kedelai amoniasi 40% ($P<0,01$). Disimpulkan bahwa pemberian pakan dengan subtitusi konsentrat menggunakan 40% kulit ari kedelai amonisasi meningkatkan konsentrasi N-NH_3 dalam rumen.

Kata kunci: N-NH_3, sintesis protein mikroba, kulit ari kedelai, amoniasi.

ABSTRACT

Hendrik Putra Wahyu Prakoso. Concentration of N-NH_3 and microbial protein synthesis in the rumen fluid of thin-tailed sheep given by the ammoniated soybean husk as a substituted of concentrate. The study aimed to determine the effect of concentrate substitution using ammoniated soybean husk on thin-tail sheep rumen fermentation products. The method used was experimental in vitro, carried out at the Laboratory of Animal Nutrition and Feed Sciences, Faculty of Animal Science and at the Research Laboratory at Jenderal Sudirman University. The research design used was a completely randomized design (CRD). The samples tested consisted of five treatments, namely P1 (Odot Grass 40% + Concentrate 60% + soybean husk 0% as control), P2 (Odot Grass 40% + Concentrate 40% + soybean husk 20%), P3 (Odot Grass 40% + 20% Concentrate + 40% soybean husk), P4 (40% Odot Grass + 40% Concentrate + 20% ammoniated soybean husk) and P5 (40% Odot Grass + 20% Concentrate + 20% Concentrate + ammoniated soybean husk 40%), each treatment was repeated four times so that there were 20 experimental units. The variables observed were N-NH_3 concentration and microbial protein synthesis. The results showed that the treatment had a very significant effect ($P < 0.01$) on the concentration of N-NH_3, but it had no significant effect on microbial protein synthesis. Orthogonal contrast test results showed that the concentration of N-NH3 rumen fluid without the addition of soybean shells was lower than the addition of soybean shell skin ($P < 0.01$). The concentration of N-NH3 rumen fluid with the addition of soybean husk without ammonia was lower than the addition of amoniated soybean husk ($P < 0.01$). The concentration of N-NH3 of sheep rumen fluid with the addition of soybean husk without ammoniation was 20% lower than the addition of soybean husk without amoniation 40% ($P < 0.01$). The concentration of N-NH3 of sheep rumen fluid with the addition of ammoniated soybean husk was 20% lower than the addition of ammoniated soybean husk 40% ($P < 0.01$). It was concluded that feeding with concentrated substitution using 40% ammonization soybean husk increased the concentration of N-NH3 in the rumen.

Keywords: N-NH_3, microbial protein synthesis, soybean husk, ammoniation.