

PENGARUH ARAS UNDEGRADED PROTEIN DAN ARAS ENERGI TERHADAP DEGRADASI IN SACCO DAN PARAMETER FERMENTASI RUMEN PADA SAPI PERAH PERANAKAN FRIESIAN HOLSTEIN

Fitri Asmawan

96/107555/PT/03308

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh aras *undegraded protein* (UDP 20% dan 30%) dan aras energi (tinggi 1,2 dan rendah 0,7 kebutuhan) terhadap degradasi pakan secara *in sacco* dan parameter fermentasi rumen pada sapi perah Peranakan Friesian Holstein (PFH). Empat ekor sapi PFH berfistula diberi empat macam ransum (R1 = UDP 20 + 0,7; R2 = UDP 20 + 1,2; R3 = UDP 30 + 0,7; R4 = UDP 30 + 1,2) dengan menggunakan rancangan *latin square* 4 x 4 dan air diberikan secara *ad libitum*. Inkubasi sampel dilakukan pada pukul 07.00 dan data diambil pada jam ke 2, 4, 8, 16, 24, dan 48. Variabel degradasi pakan yang diamati meliputi degradasi bahan kering (BK) dan bahan organik (BO). Cairan rumen untuk rerata parameter fermentasi rumen meliputi pH, amonia dan *volatile fatty acid* (VFA) diambil sebanyak 12 titik tiap dua jam selama 24 jam. Data yang diperoleh dianalisis variansi dan jika terdapat perbedaan dilanjutkan uji orthogonal kontras. Hasil penelitian menunjukkan bahwa degradasi BK dan BO tidak berbeda nyata pada kedua aras UDP dan aras energi. Konsentrasi VFA dan amonia tidak berbeda secara nyata. Aras energi tidak berpengaruh terhadap nilai pH tetapi lebih tinggi ($P < 0,05$) pada aras UDP 30%. Dari hasil penelitian ini dapat disimpulkan bahwa aras UDP dan energi tidak berpengaruh terhadap degradasi BK, BO, nilai pH, konsentrasi VFA, dan konsentrasi NH_3 .

Kata kunci : *Undegraded protein*, Energi, degradasi *in sacco*, parameter fermentasi rumen, Sapi PFH

THE EFFECTS OF LEVEL OF UNDEGRADED PROTEIN AND LEVEL OF ENERGY ON IN SACCO DEGRADABILITY AND RUMEN PARAMETERS IN FRIESIAN HOLSTEIN CROSSBRED COWS

Fitri Asmawan

96/107555/PT/03308

Abstract

This research was conducted to study the effect of level of undegraded protein (UDP 20% and 30%) and level of energy (high : 1,2 and low : 0,7) on in sacco degradability and rumen parameters in Friesian Holstein crossbred cows. Four fistulated cows were fed four diets (R1 = UDP 20 + 0,7; R2 = UDP 20 + 1,2; R3 = UDP 30 + 0,7; R4 = UDP 30 + 1,2) using latin square 4 x 4 design. Water was given ad libitum. Samples incubated on 07.00 am for 2, 4, 8, 16, 24, and 48 h incubation in the rumen. Variables feed degradability measured were dry matter (DM) and organic matter (OM). Rumen fluid for rumen parameters that cover pH, volatile fatty acid (VFA) and ammonia was sampled at 12 point every 2 hours on one day. All data were analyzed of variance, followed by orthogonal contrast. The results indicated that DM degradability and OM degradability were not significantly affected by levels of UDP and levels of energy. VFA and ammonia concentrations also were not significantly affected. Level of energy were not significantly affect pH, but higher ($P < 0,05$) at level of 30% UDP. It could be concluded that level of UDP and energy have not affect DM and OM degradability, pH, VFA concentration and NH_3 concentration.

Key words : Undegraded protein, Energy, Dry matter and organic matter degradability, Rumen parameters, Friesian Holstein Crossbred Cows