

SUPLEMENTASI KONSENTRAT DEGRADASI PROTEIN TINGGI PADA SAPI PERANAKAN FRIESIAN HOLTEIN DENGAN PAKAN BASAL YANG BERBEDA TERHADAP KONSUMSI DAN KECERNAAN PAKAN

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian ransum degradasi protein tinggi dengan pakan basal jerami padi (JP), jerami jagung (JJ) dan rumput Raja (RR) terhadap konsumsi pakan dan pencernaan nutrisi. Lima belas ekor sapi Peranakan Friesian Holstein umur 1,5-2,0 tahun dengan berat badan 200-250 kg dibagi secara acak dalam 3 kelompok perlakuan pakan basal. Masing-masing kelompok sebanyak 5 ekor. Konsentrat yang mengandung degradasi protein tinggi diberikan sesuai dengan kebutuhannya (menurut rekomendasi NRC INRA), dengan perbandingan untuk pakan basal JP antara konsentrat dan jerami padi adalah 60% : 40%, sedangkan untuk pakan basal JJ dan RR perbandingan konsentrat dan hijauan adalah 45% : 55%. Air minum diberikan secara *ad libitum*. Pakan diberikan dua kali sehari yaitu pada pagi hari jam 07.00 dan sore hari jam 15.00. Penimbangan ternak dilakukan diawal penelitian dan akhir penelitian. Data konsumsi pakan diambil setiap hari selama 14 hari dan data pencernaan dikoleksi selama 8 hari. Semua data yang diperoleh dilakukan uji analisis statistik dengan rancangan acak lengkap pola searah dan bila terdapat perbedaan yang nyata dilanjutkan dengan uji *Duncans multiple range test* (DMRT). Hasil penelitian menunjukkan bahwa konsumsi bahan kering (BK), bahan organik (BO), protein kasar (PK) dan *neutral detergent fiber* (NDF) diantara perlakuan menunjukkan perbedaan nyata ($P < 0,05$). Konsumsi bahan kering (kg/ekor/hari) untuk pakan basal JP, JJ dan RR berturut-turut adalah 7,91, 9,83 dan 11,10. Konsumsi bahan organik (kg/ekor/hari) untuk pakan basal JP, JJ dan RR berturut-turut adalah 6,94, 8,93 dan 10,08. Konsumsi protein kasar (kg/ekor/hari) untuk pakan basal JP, JJ dan RR berturut-turut adalah 1,27, 1,55 dan 1,71. Konsumsi *neutral detergent fiber* (kg/ekor/hari) untuk pakan basal JP, JJ dan RR berturut-turut adalah 6,26, 6,42 dan 7,21. Pencernaan BK, BO dan PK yang diperoleh diantara pakan basal juga menunjukkan perbedaan nyata ($P < 0,05$), sedangkan pencernaan NDF menunjukkan tidak berbeda nyata. Pencernaan bahan kering untuk pakan basal JP, JJ dan RR berturut-turut adalah 57,18%, 67,13% dan 70,50%. Pencernaan bahan organik untuk pakan basal JP, JJ dan RR berturut-turut adalah 65,96%, 67,36% dan 71,40%. Pencernaan protein kasar untuk pakan basal JP, JJ dan RR berturut-turut adalah 70,00%, 71,01% dan 76,49%. Pencernaan *neutral detergent fiber* untuk pakan basal JP, JJ dan RR berturut-turut adalah 61,36%, 61,85% dan 64,40%. Dari penelitian ini dapat disimpulkan bahwa dengan pemberian ransum degradasi protein tinggi akan memberikan konsumsi dan pencernaan yang lebih baik pada ransum basal rumput Raja.

Kata Kunci: Suplementasi, Degradasi, Protein Tinggi, Peranakan Friesian Holstein, Pakan Basal, Konsumsi, Pencernaan Pakan

SUPPLEMENTATION OF HIGH LEVEL OF PROTEIN DEGRADATION CONCENTRATE TO FRIESIAN HOLSTEN CROSSBRED WITH DIFFERENT BASAL DIET ON CONSUMPTION AND DIGESTIBILITY OF FEED

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ABSTRACT

This research was conducted to determine the effects of high level of protein degradation concentrate with basal diet such as rice straw, corn straw, and King grass on nutrient intake and digestibility. Fifteenth heifers Frisian Holstein aged 1.5 – 2.0 years old of bodyweight about 200 – 250 kg were randomly divided into three groups of five. The concentrate with high level of protein degradation compared with their requirements (recommendation of NRC, INRA) given to them using ratio of basal diet between concentrate and rice straw was 60% : 40%, while ratio of basal diet between corn straw and king grass was 45% : 55%. The water was given *ad libitum*. The diet fed twice a day at 7 a.m and 5 p.m. The bodyweight of heifers were measured at the beginning and the end of experiment. The data of feed intake was collected everyday for 14 days, the digestibility was observed for eight days. The data were analyzed by means of the Completely Randomized Design of one-way classification. The mean differences were tested by Duncans Multiple Range Test (DMRT). The result showed that the feed intake of dry matter, organic matter, crude protein and neutral detergent fiber among treatment significantly difference ($P < 0.05$). The consumption of dry matter (kg/head/days) for basal diets (rice straw, corn straw, and king grass) were 7.91, 9.83 and 11.10 respectively. The consumption of organic matter (kg/head/days) for basal diets (rice straw, corn straw, and king grass) were 6.94, 8.93 and 10.08 respectively. The consumption of crude protein (kg/head/days) for basal diets (rice straw, corn straw, and king grass) were 1.27, 1.55 and 1.71 respectively. The consumption of neutral detergent fiber (kg/head/days) for basal diets (rice straw, corn straw, and king grass) were 6.26, 6.42 and 7.21 respectively. The digestibility of dry matter, organic matter, crude protein were significantly difference ($P < 0.05$), whereas the digestibility of neutral detergent fiber (NDF) did not different. The digestibility of dry matter for basal diets (rice straw, corn straw, and king grass) were 57.18%, 67.13% and 70.50% respectively. The digestibility of organic matter for basal diets (rice straw, corn straw, and king grass) were 65.96%, 67.36% and 71.40% respectively. The digestibility of crude protein for basal diets (rice straw, corn straw, and king grass) were 70.00%, 71.01% and 76.49% respectively. The digestibility of neutral detergent fiber (NDF) for basal diets (rice straw, corn straw, and king grass) were 61.36%, 61.85% and 64.40% respectively. In conclusion, feed consist of high level of protein degradation concentrate was better on consumption and digestibility of basal diet of King grass.

Key Words: Supplementation, Protein, Degradation, Friesian Holstein Crossbred, Basal Diet, Consumption, Feed Digestibility.



Suplementasi konsentrat degradasi protein tinggi pada sapi peranakan Friesian Holstein dengan pakan basal yang berbeda terhadap konsumsi dan pencernaan pakan
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