PENGARUH TIPE KARBOHIDRAT RAN ARAS *UNDEGRADED PROTEIN* TERHADAP KONSUMSI DAN KECERNAAN NUTRIEN PADA SAPIPERAH PERANAKAN FRIESIAN HOLSTEIN

Anditiarso (02956/PT)
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INTISARI

Penelitian ini dilakukan untuk mengetahui pengaruh tipe karbohidrat (serat tercema cepat dan pati tercema lambat) dan aras *undegraded protein* (rendah dan tinggi) terhadap konsumsi dan kecemaan nutrien sapi perah PFH, dengan menggunakan rancangan latin square 4 x 4 yaitu empat ekor sapi perah PFH laktasi diberi pakan dengan empat macam konsentrat yang terdiri dari Pati - *Undegraded protein* Tinggi (P-UDPT), Pati - *Undegraded protein* Rendah (P-UDPR), Serat - *Undegraded protein* Tinggi (S-UDPT) dan Serat - *Undegraded protein* Rendah (S-UDPR). Studi kecemaan dilakukan selama empat periode dengan susunan BK ransum : 60 % mmpur Raja dan 40 % konsentrat percobaan. Rumput raja digunakan sebagai ransum basal, dicacah dan diberikan secara *ad libitum*. Konsumsi ransum dicatat setiap hari, sampel rumput segar, konsentrat, sisa rumput dan feses dikoleksi setiap periode dan di analisis kandungan bahan kering (BK), bahan organik (BO), protein kasar (PK) dan *neutral detergent fibre* (NDF). Data yang diperoleh dianalisis dengan analisis variansi, bila terdapat perbedaan yang nyata dilanjutkan dengan uji Duncan's Newmultiple Range Test. Hasil analisis statistik menunjukan bahwa konsumsi BK, BO, PK dan NDF tidak berbeda nyata antara perlakuan. Kecemaan BK lebih tinggi ($P < 0,05$) pada sapi yang diberi karbohidrat tipe serat daripada tipe pati (66,72 vs 63,53 %), namun tidak dipengaruhi oleh aras *undegraded proteinnya*, sedangkan kecemaan BO tidak berbeda nyata antara perlakuan. Aras *undegraded protein* tidak mempengaruhi kecemaan PK, tetapi dipengaruhi oleh tipe karbohidratnya dimana kecemaan PK lebih tinggi ($P < 0,05$) pada sapi yang diberi karbohidrat tipe serat dibanding tipe pati (79,84 vs 77,67 %). Kecemaan NDF lebih tinggi ($P < 0,05$) pada sapi yang diberi karbohidrat tipe serat dibanding tipe pati (66,45 vs 56,14 %), namun tidak dipengaruhi oleh aras *undegraded proteinnya*. Dari hasil penelitian dapat disimpulkan bahwa karbohidrat tipe serat cepat mempunyai kecemaan BK, PK dan NDF lebih tinggi dibanding tipe pati lambat, tetapi tidak mempengaruhi konsumsinya. Sebaliknya aras *undegraded protein* tidak mempengaruhi konsumsi dan kecemaan nutrien.

(Kata Kunci : PFH, Tipe Karbohidrat, *Undegraded Protein*, Konsumsi, Kecemaan)

%

EFFECTS OF TYPES OF CARBOHYDRATE AND LEVELS OF UNDEGRADED PROTEIN ON FEED INTAKE AND NUTRIENT DIGESTIBILITY IN FRIESIAN HOLSTEIN GRADE COWS

Anditiarso (02956/PT)
1998

ABSTRACT

A feeding trial was carried out to study the effects of types of carbohydrate (readily degraded fibre and slowly degraded starch) and levels of undegraded protein (low and high) on feed intake and nutrient digestibility in Friesian Holstein Grade cows. The experimental design was a 4 x 4 latin square, four lactating Friesian Holstein Grade cows were fed four differents of concentrates were Starch - High Undegraded Protein Level (P-UDPT), Starch - Low Undegraded Protein Level (P-UDPR), Fibre - High Undegraded Protein Level (S-UDPT) and Fibre - Low Undegraded Protein Level (S-UDPR). The feeding trial was done in four periods and the diets consisted of 60 percent grass and 40 percent concentrate. The grass was used as basal diet, chopped and given *ad libitum*. The feed intake was recorded every day, and grass, concentrates, refusal grass and feces from each cows were sampled for each periods, and than analyzed for dry matter (DM), organic matter (OM), crude protein (CP) and neutral detergent fibre (NDF). All data were statistically using analyzed, followed by Duncan's New Multiple Range Test. The result indicated that DM, OM, CP and NDF intakes were not differ for all treatments. DM digestibility was higher ($P < .05$) for cows given fibre than starch (66.72 vs 63.53 %), but it were not affected by level of undegraded protein. Whereas OM digestibility were not differ for all treatments. CP digestibility was not affected by level of undegraded protein, but it was affected by type of carbohydrate where fibre was higher ($P < .05$) than starch (79.84 vs 77.67 %). NDF digestibility was higher ($P < .05$) for cows given fibre than starch (66.45 vs 56.14 %), but it was not affected by level of undegraded protein. It was concluded that fibre had DM, CP and NDF digestibility higher than starch, but it was not differ on consumption. Level of undegraded protein had no influence on nutrient consumption and digestibility.

(Key Words : Friesian Holstein Grade, Type of Carbohydrate, Undegraded Protein, Feed Intake, Digestibility)