

**PENGARUH SUPLEMENTASI RUMEN UNDEGRADED PROTEIN
TERHADAP KONSUMSI NUTRIEN DAN PROFIL BIOKIMIA
DARAH SAPI PERAH *FRIESIAN HOLSTEIN*
PERIODE *MID* LAKTASI**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh suplementasi *rumen undegraded protein* terhadap konsumsi nutrien dan profil biokimia darah sapi perah *Friesian Holstein* periode *mid* laktasi. Penelitian ini dilaksanakan di Balai Besar Pembibitan Ternak Unggul dan Hijauan Pakan Ternak (BBPTU-HPT) Baturraden, Banyumas, Jawa Tengah pada bulan Desember 2018 sampai Maret 2019. Penelitian ini menggunakan 10 ekor sapi perah laktasi dengan bobot badan kelompok P0 dan P1 yaitu $541,20 \pm 68,11$ vs. $535,10 \pm 48,12$ kg. Pengelompokan ternak dibagi menjadi 2 yaitu sebagai kontrol (P0) dan kelompok perlakuan (P1) dengan suplementasi *rumen undegraded protein* dalam ransumnya. Pakan yang diberikan adalah hijauan dan konsentrat dengan proporsi 50:50 dalam bahan kering (BK). Kelompok kontrol diberikan konsentrat dengan BK 88,33%, bahan organik (BO) 81,87%, protein kasar (PK) 20,55% dan *total digestible nutrient* (TDN) 71,85%. Kelompok perlakuan diberikan konsentrat dengan kandungan BK 88,65%, BO 79,44%, PK 20,06% dan TDN 69,69%, ditambahkan dengan suplementasi bungkil kedelai terproteksi sebagai *rumen undegraded protein* sebanyak 60 g/kg produksi susu. Data yang diperoleh dianalisis dengan uji *Independent Sample T-Test* dan dilanjutkan dengan Analisis Kovarian untuk data profil biokimia darah. Hasil penelitian menunjukkan bahwa konsumsi nutrien antara kelompok P0 dan P1 berbeda nyata ($P < 0,05$) dengan konsumsi BK $15,41 \pm 1,75$ vs. $17,32 \pm 0,98$ kg BK/ekor/hari, BO $13,43 \pm 1,51$ vs. $14,96 \pm 0,86$ kg BK/ekor/hari, protein kasar $2,90 \pm 0,30$ vs. $3,29 \pm 0,18$ kg BK/ekor/hari, serat kasar (SK) $3,36 \pm 0,53$ vs. $3,67 \pm 0,36$ kg BK/ekor/hari, lemak kasar (LK) $0,52 \pm 0,05$ vs. $0,54 \pm 0,03$ kg BK/ekor/hari dan TDN $9,42 \pm 1,04$ vs. $10,72 \pm 0,62$ kg BK/ekor/hari. Profil biokimia darah antara kelompok P0 dan P1 menunjukkan perberbedaan nyata ($P < 0,05$) pada kadar glukosa yaitu $57,41 \pm 4,47$ vs. $52,58 \pm 4,42$ mg/dL, sedangkan kadar urea, albumin, kolesterol dan total protein menunjukkan hasil yang tidak berbeda nyata. Berdasarkan hasil penelitian dapat disimpulkan bahwa pemberian pakan dengan penambahan *rumen undegraded protein* pada sapi perah *Friesian Holstein* periode *mid* laktasi dapat meningkatkan konsumsi nutrien, walaupun tidak memberikan pengaruh pada profil biokimia darah kecuali pada kadar glukosa darah.

Kata kunci: *Friesian Holstein*, Konsumsi pakan, *Mid* laktasi, Profil biokimia darah, *Rumen undegraded protein*.

EFFECT OF SUPPLEMENTATION RUMEN UNDEGRADED PROTEIN SUPPLEMENTATION ON NUTRIENT CONSUMPTION AND BLOOD BIOCHEMICAL PROFILE OF *MID* LACTATING PERIOD FRIESIAN HOLSTEIN DAIRY COWS

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ABSTRACT

This research aims to determine the effect of feeding with rumen undegraded protein supplementation on the nutrient consumption and biochemical profile of Holstein Friesian dairy cows blood in the *mid*-lactation period. This research was done in BBPTU-HPT Baturraden, Banyumas, Central Java from December 2018 to March 2019. The research used 10 dairy cows with a body weight group P0 and P1 of 541.20 ± 68.11 vs. 535.10 ± 48.12 kg. The grouping of cows was divided into two groups, as control animals (P0) and as treatment that were given an supplementation rumen undegraded protein (P1). The feed were forage and concentrate with a proportion of 50:50 in the dry matter (DM). The control group was given concentrate with the contents of DM 88.33%, organic matter (OM) 81.87%, crude protein (CP) 20.55% and *total digestible nutrient* (TDN) 71.85%. The treatment group was given concentrate containing DM 88.65%, OM 79.44%, CP 20.06% and TDN 69.69% with supplementation of protected soybean meal as an rumen undegraded protein of 60 g/kg milk productions. The obtained data were analyzed by Independent Sample T-Test and continued with Analysis Of Covariance (Ankova) for blood biochemical profile. The results showed that the nutrient consumption of P0 and P1 have a significant difference ($P < 0,05$), with the feed consumption were DM 15.41 ± 1.75 vs 17.32 ± 0.98 kg DM/head/day, OM 13.43 ± 1.51 vs 14.96 ± 0.86 kg DM/head/day, CP 2.90 ± 0.30 vs 3.29 ± 0.18 kg DM/head/day, crude fiber (CF) 3.36 ± 0.53 vs 3.67 ± 0.36 kg DM/head/day, ether extract (EE) 0.52 ± 0.05 vs. 0.54 ± 0.03 kg DM/head/day and TDN 9.42 ± 1.04 vs. 10.72 ± 0.62 kg DM/head/day. The biochemical profile of blood in the P0 and P1 groups showed a significant difference ($P < 0,05$) on glucose (57.41 ± 4.47 vs. 52.58 ± 4.42 mg/dL), whereas urea, albumin, cholesterol and total protein showed not significant different ($P > 0,05$). Based on the results of this study it can be concluded that the rumen undegraded protein supplementation in *mid* actation dairy cows can increased the nutritional consumption, although did not affect the biochemical profile of dairy cows blood, except the bloods glucose.

Key words: Biochemical profile of blood, Feed consumption, Friesian Holstein, *Mid* lactation, Undegraded protein rumen.