

**KONSUMSI NUTRIEN, PROTEIN SUSU, *MILK UREA NITROGEN*
(MUN), SERTA HUBUNGAN ANTARA PROTEIN SUSU DAN
MUN PADA SAPI PERAH LAKTASI DI KELOMPOK
TERNAK NGUDI MAKMUR CANGKRINGAN
SLEMAN**

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INTISARI

Penelitian ini bertujuan untuk mengetahui konsumsi nutrisi, kadar protein susu, *milk urea nitrogen* (MUN), serta hubungan antara kadar protein susu dan MUN pada sapi perah laktasi di kelompok ternak Ngudi Makmur Cangkringan, Sleman. Analisis sampel dilaksanakan di Laboratorium Ilmu Makanan Ternak dan Laboratorium Ilmu Ternak Perah dan Industri Persusuan, Fakultas Peternakan, serta Laboratorium Penelitian dan Pengujian Terpadu, Universitas Gadjah Mada. Penelitian ini dilakukan pada bulan September 2020 sampai Januari 2021 dengan menggunakan 12 ekor sapi perah laktasi Peranakan Fresian Holstein (PFH) pada periode laktasi pertama sampai ketiga dengan bobot badan $476,6 \pm 74,4$ kg. Sapi perah yang digunakan memiliki *body condition score* (BCS) antara 2,25 sampai 3,25. Sapi perah diberi ransum sesuai yang dipraktikkan oleh peternak. Ransum terdiri atas hijauan dan konsentrat dengan perbandingan, yaitu 40:60 dalam bahan kering, dengan rata-rata pemberian hijauan sebesar $30,94 \pm 2,78$ kg/ekor/hari dan konsentrat sebesar $9,88 \pm 1,49$ kg/ekor/hari. Parameter yang diamati berupa analisis komposisi bahan pakan, konsumsi nutrisi berupa bahan kering (BK), bahan organik (BO), protein kasar (PK), serat kasar (SK), dan *total digestible nutrient* (TDN), produksi susu, kadar protein susu, dan nilai MUN. Data yang terkumpul dianalisis secara deskriptif, serta dilakukan uji dengan menggunakan analisis regresi dan korelasi menggunakan *Statistical Package for Social Sciences* (SPSS) versi 26.0 dan microsoft excel. Hasil penelitian menunjukkan konsumsi BK sebesar $15,43 \pm 1,25$ kg/ekor/hari, BO $12,90 \pm 1,18$ kg BK/ekor/hari, PK $2,25 \pm 0,22$ kg BK/ekor/hari, SK $3,03 \pm 0,48$ kg BK/ekor/hari, dan TDN $9,66 \pm 0,99$ kg BK/ekor/hari. Produksi susu sebesar $14,31 \pm 0,24$ L/ekor/hari, kadar protein susu sebesar $3,13 \pm 0,23\%$, dan nilai MUN sebesar $13,23 \pm 3,24$ mg/dL. Berdasarkan hasil penelitian dapat disimpulkan bahwa konsumsi nutrisi sapi perah di kelompok ternak Ngudi Makmur telah mencukupi kebutuhan. Kadar protein susu tidak memberikan pengaruh nyata terhadap nilai MUN. Kadar protein susu memiliki korelasi sangat lemah.

Kata kunci : Sapi perah, Konsumsi nutrisi, *Milk urea nitrogen*, Protein susu, Kelompok ternak

NUTRIENTS CONSUMPTION, MILK PROTEIN, MILK UREA NITROGEN (MUN), AND THE RELATIONSHIP BETWEEN MILK PROTEIN AND MUN IN LACTATING DAIRY COWS IN NGUDI MAKMUR FARMER'S GROUP CANGKRINGAN SLEMAN

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ABSTRACT

This study aims to determine the nutrient consumption, milk protein content, milk urea nitrogen (MUN), and the relationship between milk protein content and MUN in lactating dairy cows in Ngudi Makmur Farmer's Group Cangkringan, Sleman. Sample analysis was carried out at the Laboratory of Animal Feed Science and Laboratory of Dairy Science and Milk Industry, Faculty of Animal Science, and The Integrated Research and Testing Laboratory, Gadjah Mada University. This study was conducted from September 2020 until January 2021. This study used 12 head of lactating Fresian Holstein dairy cows on the first to third lactation periods with body weight of 476.6 ± 74.4 kg. The dairy cows used have a body condition score (BCS) between 2.25 to 3.25. The cows were given a ration as daily practised by the farmer. The diets were forages and concentrate with a 40:60 ratio in dry matter. The average feed given is 30.94 ± 2.78 kg/head/day of forages and 9.88 ± 1.49 kg/head/day of concentrates. The parameters observed were the analysis of the feed ingredients composition, the consumption of the nutrients such as dry matter (DM), organic matter (OM), crude protein (CP), crude fiber (CF), and total digestible nutrient (TDN), the milk production, the milk protein content, and milk urea nitrogen (MUN). The collected data were analyzed descriptively and tested using regression and correlation analysis using Statistical Package for Social Sciences (SPSS) version 26.0 dan Microsoft Excel. The results were that DM consumption was 15.43 ± 1.25 kg/head/day, OM consumption was 12.90 ± 1.18 kg DM/head/day, CP consumption was 2.25 ± 0.22 kg DM/head/day, CF consumption was 3.03 ± 0.48 kg DM/head/day, and TDN consumption was 9.66 ± 0.99 kg DM/head/day. The value of milk production was 14.31 ± 0.24 L/head/day, milk protein content was $3.13 \pm 0.23\%$, and MUN was 13.23 ± 3.24 mg/dL. Based on the results of the study, it can be concluded that the value consumption of the nutrient in dairy cows in Ngudi Makmur Farmer's Group has been sufficient. Milk protein content have no noticeable effect on MUN. Milk protein content and MUN have a very weak correlation.

Keywords : Dairy cow, Nutrient consumption, Milk protein, Milk urea nitrogen, Farmer's group.