

**PREDIKSI STATUS NUTRISI SAPI PERAH LAKTASI BERDASARKAN KANDUNGAN PROTEIN SUSU DAN MILK UREA NITROGEN DI KELOMPOK TERNAK NGUDI MAKMUR II, CANGKRINGAN, SLEMAN**

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**INTISARI**

Penelitian ini bertujuan untuk mengetahui status nutrisi pada sapi perah laktasi berdasarkan kandungan protein dan *milk urea nitrogen* (MUN) dalam susu pada peternakan rakyat di Kelompok Ternak Ngudi Makmur II, Cangkringan, Sleman. Pelaksanaan penelitian dimulai pada bulan September sampai November 2019. Penelitian ini menggunakan sapi perah *Friesian Holstein* periode *mid*-laktasi yang berjumlah 10 ekor. Pakan yang diberikan adalah hijauan dan konsentrat dengan proporsi sesuai yang biasa diberikan oleh peternak kelompok ternak Ngudi Makmur II, Cangkringan, Sleman. Air minum diberikan secara *ad libitum*. Variabel yang diamati adalah analisis komposisi bahan pakan, konsumsi pakan (bahan kering (BK), bahan organik (BO), protein kasar (PK), lemak kasar (LK), serat kasar (SK), dan *total digestible nutrients* (TDN)), produksi dan kandungan protein susu, serta MUN. Analisis sampel dilakukan di Laboratorium Ilmu Ternak Perah dan Industri Persusuan Fakultas Peternakan dan Laboratorium Penelitian dan Pengujian Terpadu (LPPT), Universitas Gadjah Mada, Yogyakarta. Data konsumsi pakan, produksi susu, protein susu, dan MUN yang diperoleh pada penelitian ini dianalisis secara deskriptif, kemudian dilakukan analisis korelasi dan regresi antara data konsumsi BK dengan produksi susu dan protein susu dengan kandungan MUN. Hasil penelitian menunjukkan konsumsi BK 14,39 kg BK/ekor/hari, BO 12,27 kg BK/ekor/hari, PK 1,73 kg BK/ekor/hari, SK 2,90 kg BK/ekor/hari, dan TDN 9,09 kg BK/ekor/hari. Data pemenuhan nutrisi berupa BK (+)1,1 kg BK/ekor/hari, PK (+)0,03 kg BK/ekor/hari, SK (+)0,64 kg BK/ekor/hari, dan TDN (+)0,53 kg BK/ekor/hari. Data rata-rata protein susu 3,05% dan MUN 12,43 mg/dL, diindikasikan nutrisi ransum *in balance*. Konsumsi BK mempunyai korelasi positif terhadap produksi susu dengan nilai koefisien korelasi sebesar 0,634 menunjukkan derajat hubungan korelasi kuat. Protein susu mempunyai korelasi positif terhadap nilai MUN dengan nilai koefisien korelasi sebesar 0,237 menunjukkan derajat hubungan korelasi lemah. Berdasarkan data pemenuhan nutrisi ternak serta data kandungan protein susu dan MUN, dapat disimpulkan bahwa status nutrisi sapi perah di Kelompok Ternak Ngudi Makmur II, Cangkringan, Sleman, berdasarkan kandungan protein susu dan MUN telah memenuhi kebutuhan ternak.

Kata kunci: Status nutrisi, Protein susu, *Milk urea nitrogen*, Sapi perah laktasi, Peternak rakyat.

**NUTRITIONAL STATUS PREDICTION OF LACTATING DAIRY COWS  
BASED ON MILK PROTEIN AND MILK UREA NITROGEN AT  
NGUDI MAKMUR II DAIRY FARMERS GROUP,  
CANGKRINGAN, SLEMAN**

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**ABSTRACT**

This study aims to determine the nutritional status of lactating dairy cows based on milk protein and milk urea nitrogen (MUN) at Ngudi Makmur II Dairy Farmers Group, Cangkringan, Sleman. The study was conducted in September until November 2019. This study used 10 Holstein Friesian dairy cows in the mid-lactation period, which were fed forages and concentrates as the farmers usually offered. Water provided by *ad libitum*. The variables collected were the composition of feed ingredients, feed intake (dry matter (DM), organic matter (OM), crude protein (CP), extract ether (EE), crude fiber (CF), and total digestible nutrients (TDN)), as well as content and production of milk protein and MUN. Samples were analyzed in the Laboratory of Dairy Science and Milk Industry, Faculty of Animal Science and the Integrated Research and Testing Laboratory (LPPT) of Universitas Gadjah Mada, Yogyakarta. Feed consumption, milk production, milk protein, and MUN data obtained from this study were analyzed descriptively. Then, data of DM intake with milk production and milk protein with MUN were analyzed by regression and correlation. The results of the study showed that intake of DM was 14,39 kg DM/head/day, BO was 12,27 kg DM/head/day, CP was 1,73 kg DM/head/day, CF was 2,90 kg DM/head/day, and TDN was 9,09 kg DM/head/day. Nutrient fulfillment data showed that intake of BK (+)1,1 kg BK/head/day, PK (+)0,03 kg BK/head/day, SK (+)0,64 kg BK/head/day, and TDN (+)0,53 kg BK/head/day. The average of milk protein was 3,05%, while for MUN was 12,43 mg/dL, indicated nutrient ration in balance. Dry matter intake was positively correlated to milk production with a correlation coefficient was 0.634, that indicated high degree of correlation. Milk protein was positively correlated to MUN value with a correlation coefficient was 0.237, that indicated low degree of correlation. Based on the nutrient fulfillment, milk protein, and MUN data, it can be concluded that the nutritional status prediction of lactating dairy cows based on the milk protein and MUN proved that their ration satisfied the lactating dairy cows requirement.

**Keywords:** Nutritional status, Milk protein, Milk urea nitrogen, Lactating dairy cows, Dairy farmers.