

## EFEK PENAMBAHAN *PELLET UNDEGRADED PROTEIN* TERHADAP KONSUMSI NUTRIEN, PRODUKSI DAN KOMPOSISI SUSU KAMBING PERAH LAKTASI

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### INTISARI

Penelitian ini bertujuan untuk mengetahui konsumsi nutrien, produksi dan komposisi susu pada kambing perah Peranakan Ettawa (PE) laktasi dengan perlakuan penambahan *pellet undegraded protein*. Penelitian ini menggunakan 12 ekor kambing perah PE periode laktasi ke-1 sampai 2, bulan laktasi ke-2 sampai 3, bobot badan  $45,9 \pm 4,9$  kg dalam rentang umur 2 sampai 3 tahun, dan nilai *body condition score* (BCS) berkisar antara 2,5 sampai 3,0. Kambing dibagi menjadi 2 kelompok, yaitu kelompok kontrol (ransum basal tanpa penambahan *pellet undegraded protein*) dan kelompok perlakuan (ransum basal dengan penambahan 20% *pellet undegraded protein* dari sumber protein). Pada masing-masing kelompok terdiri dari 6 ternak sebagai ulangan. Bahan pakan yang digunakan yaitu hijauan (tebon dan kaliandra) dan konsentrat (ampas tahu, *pollard*, dan Nufeed®) dengan proporsi 50 : 50 dalam bahan kering. Data konsumsi pakan, sisa pakan, dan produksi susu diambil selama 60 hari. Sampel pakan diambil setiap hari dan sampling susu dilakukan dua kali selama penelitian. Variabel yang diamati yaitu konsumsi nutrien, produksi dan komposisi susu (lemak, protein, laktosa, *solid non fat*, dan *total solid*). Data yang diperoleh dianalisis dengan Uji *Independent Sample T-test*. Hasil penelitian menunjukkan bahwa konsumsi nutrien seperti bahan kering (BK), bahan organik (BO), *neutral detergent fiber* (NDF), *acid detergent fiber* (ADF), *total digestible nutrient* (TDN), dan kinerja produksi meliputi produksi susu, kadar dan produksi lemak susu, kadar dan produksi protein susu, kadar dan produksi laktosa susu, kadar *solid non fat*, dan *total solid* antara kelompok kontrol dan perlakuan tidak menunjukkan perbedaan yang nyata. Konsumsi PK menunjukkan perbedaan yang nyata ( $P < 0,05$ ). Konsumsi PK kelompok kontrol dan perlakuan masing-masing, yaitu  $279,88 \pm 29,71$  vs.  $316,50 \pm 20,64$  g BK/ekor/hari. Hasil penelitian ini dapat disimpulkan bahwa penambahan *pellet undegraded protein* pada kambing perah laktasi tidak meningkatkan konsumsi nutrien, produksi dan komposisi susu. Namun meningkatkan konsumsi PK.

Kata kunci: Kambing peranakan ettawa, Konsumsi pakan, *Pellet undegraded protein*, Produksi dan komposisi susu.

## EFFECT OF ADDITION UNDEGRADED PROTEIN PELLETT ON NUTRIENT CONSUMPTION, PRODUCTION AND COMPOSITION LACTATING DAIRY GOATS MILK

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### ABSTRACT

This study aims to determine the nutrient consumption, milk production and composition on Ettawa Crossbreed (PE) lactating dairy goats with the addition of undegraded protein pellet. This study used 12 dairy goats PE for the 1<sup>st</sup> to 2<sup>nd</sup> lactation period, 2<sup>nd</sup> to 3<sup>rd</sup> lactation month, body weight  $45.9 \pm 4.9$  kg in the age range of 2 to 3 years, and body condition score (BCS) ranged from 2.5 to 3.0. The goats were divided into 2 groups, the control group (basal ration without the addition of undegraded protein pellet) and the treatment group (basal ration with the addition of 20% undegraded protein pellet from the protein source). Each group consisted of 6 animals as replicates. The feed ingredients used are forage (corn stover and calliandra) and concentrate (tofu waste, pollard, and Nufeed®) with a proportion of 50 : 50 in dry matter. Data on feed consumption, feed residue and milk production were taken for 60 days. Feed samples were taken every day and milk sampling was carried out twice during the study. The variables observed were nutrient consumption, milk production and composition (fat, protein, lactose, solid non fat, and total solid). Data obtained were analyzed by using the Independent Sample T-test. The result showed that the consumption of nutrients such as dry matter (DM), organic matter (OM), neutral detergent fiber (NDF), acid detergent fiber (ADF), total digestible nutrient (TDN), and production performance includes milk production, milk fat content and production, milk protein content and production, milk lactose content and production, solid non fat content, and total solid between control and treatment group were not significant. Crude protein (CP) consumption showed a significant difference ( $P < 0.05$ ). CP consumption in the control and treatment group were  $279.88 \pm 29.71$  vs.  $316.50 \pm 20.64$  g DM/head/day. The conclusion is addition of undegraded protein pellet on lactating dairy goats decrease nutrient consumption, milk production and composition. However this could increase CP consumption.

**Keywords:** Ettawa crossbreed goats, Feed consumption, *Undegraded protein pellet*, Milk production and composition.