

## PENGARUH PENAMBAHAN *UNDEGRADED PROTEIN PELLETT* TERHADAP KONSUMSI DAN KECERNAAN NUTRIEN KAMBING PERAH LAKTASI

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### INTISARI

Penelitian ini bertujuan untuk mengetahui efek penambahan *undegraded protein pellet* terhadap konsumsi dan pencernaan nutrisi kambing perah laktasi. *Undegraded protein pellet* merupakan pakan suplemen sumber protein yang terproteksi dalam bentuk *pellet* untuk melindungi protein dari degradasi mikroba rumen, sehingga dapat meningkatkan jumlah protein yang masuk ke dalam intestinum. Penelitian dilakukan secara *in vivo* dengan 2 perlakuan dan 5 ulangan. Penelitian ini menggunakan 10 ekor kambing Peranakan Ettawa (PE) dengan periode laktasi ke-1 sampai ke-2, rata-rata bobot tubuh  $46,8 \pm 5,6$  kg, dan nilai *body condition score* (BCS) berkisar 2,75 sampai 3,00. Kambing dibagi menjadi 2 kelompok, yaitu kelompok kontrol (ransum basal tanpa penambahan *undegraded protein pellet*) sebagai P0 dan kelompok perlakuan (ransum basal dengan penambahan 20% *undegraded protein pellet* dari sumber protein) sebagai P1. Bahan pakan yang digunakan adalah hijauan (tebon jagung dan kaliandra) dan konsentrat (Nufeed<sup>®</sup>, ampas tahu, dan *pollard*). *Sampling* pakan dan koleksi feses dilakukan setiap hari selama penelitian. Variabel yang diamati adalah komposisi kimia, konsumsi nutrisi, dan pencernaan nutrisi. Data yang diperoleh diantara dua kelompok dianalisis dengan uji *Independent Sampel T-test*. Hasil penelitian menunjukkan bahwa konsumsi protein kasar (PK) dan pencernaan PK (KcPK) antara kelompok P0 dengan kelompok P1 menunjukkan perbedaan yang nyata ( $P < 0,05$ ), masing-masing sebesar  $268,18 \pm 11,42$  vs.  $304,82 \pm 28,57$  g BK/ekor/hari dan  $67,63 \pm 3,46\%$  vs.  $77,06 \pm 8,31\%$ . Namun, konsumsi dan pencernaan bahan kering (BK), bahan organik (BO), lemak kasar (LK), *acid detergent fiber* (ADF), *neutral detergent fiber* (NDF), *non-fiber carbohydrate* (NFC) menunjukkan perbedaan yang tidak nyata ( $P > 0,05$ ). Hasil penelitian ini dapat disimpulkan bahwa penambahan *undegraded protein pellet* sebanyak 20% dari sumber protein pada ransum kambing perah laktasi dapat meningkatkan konsumsi dan pencernaan PK, akan tetapi konsumsi dan pencernaan BK, BO, LK, NDF, ADF, dan NFC tetap.

Kata Kunci: *In vivo*, Kambing Perah Laktasi, Pencernaan Nutrien, Konsumsi Pakan, *Undegraded Protein Pellet*.

## **EFFECT OF ADDITION UNDEGRADED PROTEIN PELLETT ON NUTRIENT CONSUMPTION AND DIGESTIBILITY OF LACTATING DAIRY GOATS**

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### **ABSTRACT**

The aim of this study was to determine the effect of addition undegraded protein pellets on consumption and nutrition digestibility of lactating dairy goats. Undegraded protein pellet is a protein source supplement which protected in the form of pellets to protect protein from degradation of rumen microbes, it can increase the amount of protein that enters the intestine. The study was conducted in vivo with 2 treatments and 5 replications. This study used 10 Ettawa Crossbreed goats with 1 to 2 lactation periods,  $46.8 \pm 5.6$  kg average body weight, and body condition score (BCS) ranging from 2.75 to 3.00. The goats were divided into 2 groups, the control group (diet without the addition of undegraded protein pellets) as P0 and the treatment group (diet with the addition of 20% undegraded protein pellets from the protein source) as P1. The feed ingredients used are forage (corn stover and calliandra) and concentrates (Nufeed<sup>®</sup>, tofu waste, and pollard). Feed and faeces were sampled everyday during the study. The observed variables included chemical composition, nutrient consumption, and digestibility. The data obtained from the two treatment groups analyzed by the Independent Sample T-test. The results showed that the consumption of crude protein (CP) and CP digestibility between groups of P0 and P1 were  $268.18 \pm 11.42$  vs.  $304.82 \pm 28.57$  g DM/head/day and  $67.63 \pm 3.46\%$  vs.  $77.06 \pm 8.31\%$  showed significant effect ( $P < 0.05$ ). However, the consumption and digestibility of dry matter (DM), organic matter (OM), ether extract (EE), acid detergent fiber (ADF), neutral detergent fiber (NDF), and non-fiber carbohydrate (NFC) showed not significant effect. The results of this study can be concluded that giving undegraded protein pellets to lactation dairy goat feed can increase consumption of CP and CP digestibility. However, it does not increase consumption and digestibility of DM, OM, EE, NDF, ADF, and NFC.

Keyword: In vivo, Dairy Goats, Nutrient Digestibility, Feed Consumption, Undegraded Protein Pellets.