

**PENGARUH IMBANGAN RUMPUT GAJAH (*Pennisetum purpureum*)  
DAN BRAN POLLARD TERHADAP SINTESIS PROTEIN MIKROBA  
RUMEN DAN KESEIMBANGAN NITROGEN PADA DOMBA GARUT**

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**INTISARI**

Ternak domba umumnya diberi pakan hijauan, akan tetapi juga diberi konsentrat sebagai pakan penguat untuk memenuhi kebutuhan nutrisi. Imbangan pakan hijauan dan konsentrat yang berbeda merepresentasikan kandungan nutrisi yang berbeda. Hal tersebut dapat berpengaruh pada sintesis protein mikroba rumen dan keseimbangan N. Penelitian ini bertujuan untuk mengetahui pengaruh perbedaan imbangan pakan rumput Gajah (*Pennisetum purpureum*) dan *bran pollard* terhadap sintesis protein mikroba rumen dan keseimbangan N pada domba Garut. Domba yang digunakan adalah domba Garut jantan berumur  $\pm$  9 bulan dengan bobot badan  $25,48 \pm 2,76$  kg sebanyak 12 ekor. Domba dibagi acak menjadi 2 kelompok perlakuan dan ditempatkan pada kandang metabolis individu. Perlakuan penelitian yaitu perbedaan imbangan rumput Gajah dan *bran pollard* sebesar 70:30 dan 60:40. Periode adaptasi dilakukan selama 14 hari dan koleksi selama 7 hari. Sampel yang dikoleksi yaitu sampel pakan pemberian, sisa pakan, feses segar, dan urin. Sampel pakan pemberian, sisa pakan, dan feses dianalisis untuk menentukan kadar BK, BO, PK, dan N. Sampel urin dianalisis kadar N, kadar dan total ekskresi derivat purin dalam urin yaitu allantoin, asam urat, xantin, dan hipoxantin. Data dianalisis berdasarkan uji *Independent Sample T-test*. Hasil penelitian menunjukkan bahwa tidak terdapat perbedaan yang nyata terhadap konsumsi BK, BO dan PK, kadar allantoin, asam urat, xantin-hipoxantin, derivat purin dalam urin, total ekskresi allantoin, asam urat, xantin-hipoxantin, derivat purin dalam urin, EMNS, BOT, DOMR, EMNS/DOMR, konsumsi N, ekskresi N feses, N tercerna, ekskresi N urin, dan keseimbangan N. Nilai EMNS dan keseimbangan N yang dihasilkan pada imbangan 70:30 dan 60:40 berturut-turut adalah 1,41 dan 1,31 g N/hari serta 3,80 dan 4,78 g/ekor/hari.

Kata kunci: Imbangan pakan, Sintesis protein, Keseimbangan nitrogen, Domba Garut

**THE EFFECT OF ELEPHANT GRASS (*Pennisetum purpureum*) AND  
POLLARD BRAN BALANCE ON RUMEN MICROBIAL PROTEIN  
SYNTHESIS AND NITROGEN BALANCE IN GARUT SHEEP**

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**ABSTRACT**

Sheep are generally fed with forage, but they are also given concentrate as a supplement to meet their nutrient requirements. Different ratios of forage and concentrate represent different nutrient contents. This can affect rumen microbial protein synthesis and nitrogen balance. This study aims to determine the effect of different ratios of Elephant Grass (*Pennisetum purpureum*) and bran pollard on rumen microbial protein synthesis and nitrogen balance in Garut sheep. Male Garut sheep, approximately 9 months old, with a body weight of  $25.48 \pm 2.76$  kg, were used in this study, totaling 12 individuals. The sheep were randomly divided into 2 treatment groups and housed in individual metabolic cages. The treatments consisted of different ratios of Elephant Grass and bran pollard, namely 70:30 and 60:40. An adaptation period of 14 days was conducted, followed by a 7-day collection period. The collected samples included feed intake, feed residue, fresh feces, and urine. The feed intake, feed residue, and feces samples were analyzed to determine the contents of dry matter (DM), organic matter (OM), crude protein (CP), and nitrogen (N). The urine samples were analyzed for nitrogen content, as well as the levels and total excretion of purine derivatives, including allantoin, uric acid, xanthine, and hypoxanthine. The data were analyzed using Independent Sample T-test. The results showed no significant differences in DM, OM, CP, allantoin, uric acid, xanthine-hypoxanthine, purine derivatives in urine, total excretion of allantoin, uric acid, xanthine-hypoxanthine, purine derivatives in urine, EMNS, BOT, DOMR, EMNS/DOMR ratio, N intake, fecal N excretion, digested N, urinary N excretion, and N balance. The resulting values of EMNS and N balance for the 70:30 and 60:40 ratios were 1.41 and 1.31 g N/day and 3.80 and 4.78 g/sheep/day, respectively.

Keywords: Feed ratio, Protein synthesis, Nitrogen balance, Garut sheep