

Nitrogen Metabolism and Microbial Protein Synthesis by Local Sheep Fed Diet Containing Hibiscus Leave Meal (HLM) with Different Direct-Fed Microbials (DFM) Supplementation

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Author Order	3 of 3
Accreditation	2
Abstract	<p>The interaction of Hibiscus Leaf Meal (HLM) and Direct-Fed Microbials (DFM) supplementation on nitrogen metabolism and rumen microbial synthesis by local sheep was investigated. Thirty six male local sheep aged $\bar{x} \pm 2$ years, weight $28.01 \bar{x} \pm 2.61$ kg were fed concentrate (3% of body weight) supplemented with HLM twice a day, amoniated rice-straw (ARS) supplemented with DFM were given ad-libitum were assigned randomly to nine treatment in an experiment of 3×3 factorial design. The first factor (P) was DFM were supplemented in ARS (P0=without DFM, P1=DFMAMS, and P2=DFMRK). Second factor (W) was the level of HLM supplementation in concentrate (W0=0%, W1=0.24% and W2=0.48% of DM consenstrate. The study measured variables including nitrogen digestibility (ND), nitrogen retention (NR), microbial protein synthesis (MPS), and Efficiency of microbial protein synthesis (EMPS). There were significant interaction between DFM and HLM supplementation on MPS and EMPS. However, the interaction of ND and NR was non-existent. Based on polynomial graph, the most efficient MPS was achieved on combination between DFMRK and 0.23% HLM about 8.70 gN/day. Despite the absence of interaction ($P > 0.05$) between DFM supplementation and HLM on KN and RN, DFM supplementation significantly affected ($P < 0.01$) Nitrogen metabolism (ND and NR). The treatment without DFM supplementation resulted the highest nitrogen metabolism (ND and NR). This study concludes that HLM without DFM supplementation positively impacted N Metabolism. Combination between 0.23% HLM and DFMRK resulted the most efficient Microbial Protein Synthesis.</p>
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