

## **SUPLEMENTASI *COMPLETE RUMEN MODIFIER* UNTUK MENINGKATKAN AKTIVITAS ENZIM DAN KECERNAAN PAKAN DOMBA**

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**Abstrak.** Penelitian bertujuan untuk mengkaji pengaruh suplementasi *complete rumen modifier* (CRM) yang terdiri dari tepung daun mengkudu, tepung ampas teh, tepung daun ketela rambat, metionin, *Saccharomyces cerevisiae*, dan sulfur, terhadap pencernaan pakan dan aktivitas enzim di dalam rumen domba secara *in vivo*. Penelitian dilakukan terhadap 18 ekor domba jantan umur 6-8 bulan menggunakan rancangan acak kelompok (RAK) dengan pengelompokan berdasarkan bobot badan. Pakan basal terdiri dari 60% konsentrat dan 40% jerami padi amoniasi yang diberikan sebanyak 4% bobot badan (BK). Adapun perlakuan yang diuji adalah: P1) pakan basal tanpa CRM (kontrol), P2) P1 + CRM 1% dan P3) P1 + CRM 2%. Hasil penelitian menunjukkan bahwa suplementasi CRM berpengaruh nyata ( $P < 0,05$ ) terhadap aktivitas enzim protease secara kuadrater sesuai persamaan  $Y = 3,8226X^2 - 8,8945X + 7,1693$ ,  $R^2 = 0,48$  dengan titik puncak  $P(1,16 ; 22,69)$ . Aktivitas enzim selulase dipengaruhi oleh suplementasi CRM secara kuadrater ( $P < 0,01$ ) dengan persamaan  $Y = -0,2572 X^2 + 0,546 X + 0,0807$  dengan  $R^2 = 0,72$  dan titik puncak  $P(1,06 ; 0,37)$ . Suplementasi CRM pada taraf 1% - 2% berpengaruh tidak nyata ( $P > 0,05$ ) terhadap pencernaan bahan kering, namun berpengaruh sangat nyata meningkatkan pencernaan serat kasar secara linier dengan persamaan  $Y = 11,685X + 30,114$  dan  $r = 0,64$ . Pencernaan protein kasar juga dipengaruhi oleh suplementasi CRM ( $P < 0,05$ ) secara linier sesuai persamaan  $Y = 5,0769X + 51,275$  dan  $r = 0,40$ .

**Kata kunci:** CRM, enzim, flavonoid, pencernaan

**Abstract.** This research was aimed to study the supplementation of complete rumen modifier (CRM) which consisted of *Moringa citrifolia* leaf powder, tea waste powder, *Ipomea batatas* L. leaf powder, methionine, *Saccharomyces cerevisiae*, and sulphur, to improve feed digestibility and rumen enzymes activity of lamb. This research was done using 18 male lamb age of 6-8 month which received 1 of 3 different treatments: P1) basal feed without CRM, P2) P1 + 1% CRM and P3) P1 + 2% CRM. Basal feed consisted of concentrate and ammoniated rice straw with ratio 60:40 and fed 4% of body weight (DM). Randomized block design with an initial body weight of lamb as a group was used in this research. CRM supplementation affects on protease activity ( $P < 0.05$ ) quadratically in equation  $Y = 3.8226X^2 - 8.8945X + 7.1693$  with  $R^2 = 0.48$  and peak  $P(1.16 ; 22.69)$ . Cellulase activity was affected by CRM supplementation ( $P < 0.01$ ) quadratically with equation  $Y = -0.572X^2 + 0.546X + 0.0807$  and  $R^2 = 0.72$  peak  $P(1.06 ; 0.37)$ . Covariance analysis showed that CRM supplementation had no effect ( $P > 0.05$ ) on digestibility of dry matter, but linearly had significant effect ( $P < 0.01$ ) on crude fiber digestibility as equation  $Y = 11.685X + 30.114$  and  $r = 0.64$ . Crude protein digestibility was affected by CRM supplementation ( $P < 0.01$ ) linearly with equation  $Y = 5.0769X + 51.275$  and  $r = 0.40$ .

**Keyword:** CRM, digestibility, enzyme, flavonoid