PENGARUH NITROGLISERIN TERHADAP KECERNAAN NUTRIEN DALAM RUMEN SECARA *IN VITRO*

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan nitrogliserin terhadap kecernaan nutrien dalam rumen secara *in vitro*. Penelitian ini dilakukan selama 3 bulan di Laboratorium Biokimia Nutrisi, Departemen Nutisi dan Makanan Ternak, Fakultas Peternakan UGM. Bahan yang digunakan dalam penelitian ini adalah bahan pakan yang terdiri atas rumput gajah (*Pennisetum purpureum*), *wheat bran* (sebagai konsentrat), serta nitrogliserin. Proporsi perbandingan hijauan dan konsentrat yaitu 60:40 berdasarkan BK. Level Nitrogliserin yang digunakan dalam penelitian yaitu 0%, 0,1%, dan 0,5%. Fermentasi dilakukan menggunakan metode *in vitro* produksi gas selama 24 jam pada suhu 39ºC dengan 3 kali running sebagai ulangan dan setiap perlakuan dilakukan secara duplo. Parameter yang diuji yaitu kecernaan bahan kering (KcBK), kecernaan bahan organik (KcBO), kecernaan serat kasar (KcSK), dan kecernaan protein kasar (KcPK). Data yang diperoleh kemudian dianalisis variansi mengikuti Rancangan Acak Lengkap (RAL) pola searah. Hasil uji yang berbeda nyata selanjutnya dianalisis uji *Duncan's Multiple Range Test* (DMRT). Semua perhitungan analisis statistik dilakukan dengan bantuan Software personal komputer *Stastical Product and Service Solution* (SPSS). Hasil penelitian menunjukkan bahwa penambahan nitrogliserin dengan konsentrasi 0,1% dan 0,5% tidak mempengaruhi KcBK, KcBO, dan KcSK, serta meningkatkan KcPK. Kesimpulannya, penambahan nitrogliserin hingga level 0,5% mampu menurunkan metan tanpa mengganggu kecernaan dalam rumen.

(Kata kunci: Nitrogliserin, Kecernaan *in Vitro*, Kecernaan)

EFFECT OF NITROGLYSERINE ON NUTRIENT DIGESTIBILITY IN VITRO

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ABSTRACT

This study aimed to determine the effect of adding nitroglycerin on nutrient digestibility in the rumen in vitro. This research was done for 3 months at the Nutritional Biochemistry Laboratory, Department of Nutrition and Animal Feed, Faculty of Animal Science, UGM. The materials used in this study were feed ingredients consisting of elephant grass (*Pennisetum purpureum*), wheat bran (as a concentrate), and nitroglycerin. The proportion of forage and concentrate was 60:40 based on DM. Nitroglycerin levels used were 0%; 0.1%; and 0.5%. Fermentation was done by using the in vitro gas production method for 24 hours at a temperature of 39°C with 3 running as replicated and each treatment was carried out in duplicate. The parameters tested were dry matter digestibility (DMD), organic matter digestibility (OMD), crude fiber digestibility (CFD), and crude protein digestibility (CPD). The data obtained were then analyzed for variance following a completely randomized design (CRD) with a unidirectional pattern. The test results that were significantly different, then analyzed by Duncan's Multiple Range Test (DMRT). All statistical analysis calculations were did by using Statistical Product and Service Solution (SPSS) personal computer software. The results showed that the addition of nitroglycerin with concentrations of 0.1% and 0.5% did not affect DMD, OMD, and CFD, and increased CPD. In conclusion, the addition of nitroglycerin up to a level of 0.5% was able to reduce methane without affected rumen digestibility. (Keywords: Nitroglycerin, In Vitro Digestibility, Digestibility)