

EKSTRAK DAUN *Indigofera zollingeriana* MENURUNKAN PRODUKSI METAN DOMBA SECARA *IN VITRO*

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Abstrak. penelitian bertujuan untuk mengkaji penurunan produksi gas metan domba ekor tipis melalui penggunaan ekstrak daun *Indigofera zollingeriana* telah dilakukan dari bulan Mei 2019 sampai dengan September 2019 di Laboratorium Ilmu Nutrisi dan Makanan Ternak Unsoed. menggunakan metode eksperimental *in vitro*. Rancangan yang digunakan yaitu rancangan acak lengkap (RAL), *One Way Classification*. Perlakuan yang diberikan yaitu ekstrak daun *Indigofera zollingeriana* dengan taraf 0, 0,40, dan 0,80% dari bahan kering pakan, setiap perlakuan diulang enam kali sehingga terdapat 18 unit percobaan. Pakan yang diberikan terdiri dari 60% konsentrat dan 40% jerami padi amoniasi. Konsentrat terdiri dari 1 bagian bungkil kelapa dan 2 bagian dedak padi. Materi yang digunakan yaitu cairan rumen yang berasal dari tiga ekor domba, diambil dari Rumah Potong Hewan Sokaraja segera setelah domba dipotong. Inkubasi *in vitro* dilaksanakan selama empat jam. Variabel yang diukur meliputi, populasi protozoa, produksi gas metan, dan populasi bakteri. Data yang diperoleh dianalisis menggunakan analisis ragam dan dilanjutkan uji Orthogonal Polinomial. Berdasarkan hasil penelitian dapat disimpulkan bahwa penggunaan ekstrak daun *Indigofera zollingeriana* sebanyak 0,80% dalam pakan yang terdiri dari 60% konsentrat dan 40% jerami padi amoniasi dapat menurunkan produksi gas metan 19.28%, jumlah protozoa 38.49% dan meningkatkan jumlah bakteri cairan rumen domba.sebanyak 383.08%.

Kata Kunci: ekstrak daun *Indigofera zollingeriana*, protozoa, metan dan bakteri

Abstract. An experimental study aimed at assessing the reduction of gas methane production in sheep through the use of *Indigofera zollingeriana* leaf extract was conducted from May to September 2019 at Animal Nutrition and Feed Laboratory, University of Jenderal Soedirman Purwokerto. A One Way Classification of Completely Randomized Design (CRD) experiment was employed. The treatment included *Indigofera zollingeriana* leaf extract with levels of 0, 0.40, and 0.80% of feed dry matter and each treatment was repeated six times so that there were 18 experimental units. The feed provided consisted of 60% concentrate and 40% ammoniated rice straw. The concentrate consisted of coconut cake and rice bran with a ratio composition of 1:2. The material used was rumen fluid obtained from three sheeps, sampled from the Sokaraja slaughterhouse immediately after the sheep were slaughtered. In vitro incubation was carried out for four hours. The variables measured included protozoan population, methane gas production and bacterial populations. The data obtained were then analyzed using analysis of variance and continued with the Orthogonal Polynomial test. Conclusion: The use of *Indigofera zollingeriana* leaf extract as much as 0.80% (based on dry matter) in feed consisting of 60% concentrate and 40% ammoniated rice straw can reduce the production of methane gas by 19.28% and the total number of protozoa count by 38.49% and can increase the total number of bacteria up to 383.08% in rumen fluid of sheep.

Keywords: *Indigofera zollingeriana* leaf extract, protozoa, methane and bacteria