

PENGARUH PEMBERIAN LEVEL VITAMIN E TERHADAP SINTESIS PROTEIN MIKROBIA RUMEN YANG DIESTIMASI BERDASAR EKSKRESI DERIVAT PURIN DALAM URIN KAMBING BLIGON BETINA

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INTISARI

Kambing Bligon betina sebanyak 12 ekor dengan rata-rata berat badan 28,54 kg digunakan dalam penelitian ini untuk mengetahui pengaruh suplementasi vitamin E dalam ransum terhadap sintesis protein mikrobia rumen kambing bligon betina, ditempatkan dalam kandang individu dan dibagi dalam 3 kelompok perlakuan dengan 4 replikasi. Penelitian ini dibagi menjadi 2 periode yaitu periode adaptasi selama 14 hari, dan periode koleksi pada saat ternak diberi pakan secara *ad libitum* selama 12 hari. Pakan basal terdiri dari hijauan dan konsentrat dengan perbandingan 70:30 diberikan secara *ad libitum*. Hijauan yang diberikan berupa jerami kacang tanah, sedangkan konsentrat terdiri dari jagung, bungkil kedelai, dedak, pollard, dan premix. Perlakuan yang digunakan terdiri atas kelompok pertama pakan basal tanpa suplementasi Vitamin E, kelompok kedua dengan pakan basal dengan suplementasi vitamin E 0,75 gram/ekor/hari, kelompok ketiga pakan basal dengan suplementasi vitamin E 1,125 gram/ekor/hari. Pada periode koleksi diambil sampel pakan yang diberikan, sisa pakan dan feses untuk penentuan kandungan bahan kering (BK) dan bahan organiknya (BO), disamping itu juga diambil sampel urin yang diekskresikan setiap 24 jam untuk menentukan kandungan derivat purin yang meliputi allantoin, asam urat, xantin-hipoxantin, sehingga dapat ditentukan sintesis protein mikrobia rumen dan efisiensi penggunaan pakan. Data kadar dan total ekskresi DP, estimasi sintesis protein mikrobia (EMNS), *digestible organic matter in rumen* (DOMR) dan efisiensi sintesis protein mikrobia dianalisis statistik menggunakan analisis variansi pola searah dan dilanjutkan dengan uji jarak berganda dari duncan atau *duncan multiple range test* (DMRT) untuk mengetahui perbedaan antara perlakuan. Suplementasi vitamin E tidak memberikan pengaruh yang nyata terhadap kadar dan ekskresi derivat purin. Suplementasi vitamin E pada pakan juga tidak memberikan pengaruh yang nyata terhadap estimasi sintesis protein mikrobia dan efisiensi sintesis protein mikrobia, tetapi memberikan pengaruh yang nyata terhadap ($P < 0,05$) bahan organik tercerna (BOT) dan pencernaan bahan organik di rumen.

Kata kunci: Kambing Bligon Betina, Derivat Purin, Protein Mikrobia, Vitamin E

EFFECTS OF VITAMIN E SUPPLEMENTATION ON MICROBIAL PROTEIN SYNTHESIS ESTIMATED BASED ON EXCRETION OF URINARY PURINE DERIVATIVES OF FEMALE BLIGON GOAT

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ABSTRACT

Twelve female bligon goats whose 28,54 kg of body weight average were used in this research to investigate the effect of vitamin E supplementation in the diet on ruminal microbial protein synthesis of female bligon goat through purine derivatives. They were placed individually on metabolism stall and divided into 3 groups by ration treatment with 4 replications. This research divide into 2 perodes, the first period was taken 14 days in order to adaptate and 12 days for collection periode with ad libitum feeding. Basal diet consist of forage and concentrate with ratio 70:30. Forage were consisted of peanut straw, while corn, soybean meal, rice brand, pollard and premix were used as concentrate. Treatments consist of the first group fed basal diet (peanut straw, corn, rice brand, soybean meal, pollard and premix) without vitamin E as control (PO), second group fed basal diet with 750 mg/head/day vitamin e suplementation (P1), and third goup fed basal diet with 1125 mg/head/day. On the collection period sample of feed which given, feed residue, feces, were analyzed to determine dry matter and organic matter. Moreover, urine was collected as total urine which was excreted 24 hours for determining purine derivatives which include allantoin, uric acid, xanthin and hypoxanthin. Therefore, it can be determined microbial protein synthesis in the rumen and the efficiency of feed use. Purine derivatives level, total excretion purin derivative, estimation microbial protein synthesis, digestid organic matter in rumen and efficiency of microbial protein synthesis were analyzed using one way ANOVA design followed by Duncan's Multiple Range Test to find out the difference for each treatment. Vitamin E supplementation in goat diet has no significant effect on purine derivatives level, total excretion of purine derivatives, estimation microbial protein synthesis, and efficiency of microbial protein synthesis. However vitamin E supplementation significantly ($P < 0,05$) increased digested organic matter and digested organic matter in rumen as well as.

Key words: Female Bligon Goat, Purine Derivatives, Microbial Protein, Vitamin E