ABSTRAK

MIFTAHUDDIN AHMAD. Suatu penelitian yang bertujuan untuk mengkaji pengaruh penambahan daun sirih pada pakan kambing secara *in vitro* terhadap kecernaan protein kasar dan kecernaan serat kasar pakan, telah dilaksanakan pada tanggal 11 Desember 2019 sampai 17 Januari 2020 bertempat di Laboratorium Ilmu Nutrisi dan Makanan Ternak, Fakultas Peternakan, Universitas Jenderal Soedirman, Purwokerto. Materi yang digunakan yaitu cairan rumen 3 ekor kambing yang diperoleh dari rumah potong hewan Sokaraja segera setelah pemotongan, pakan basal yang terdiri dari konsentrat (yang tersusun dari bungkil kelapa dan dedak padi dengan imbangan 2 : 1) dan jerami padi amoniasi dengan imbangan 60 : 40, serta penambahan tepung daun sirih sebanyak 0%, 5% dan 10%. Metode yang digunakan adalah metode eksperimen menggunakan rancangan acak lengkap (RAL) *one way classification*. Terdapat tiga perlakuan yang diuji yaitu P0 (60% konsentrat + 40% Jerami padi amoniasi + 0% tepung daun sirih), P1 (60% konsentrat + 40% Jerami padi amoniasi + 5% tepung daun sirih), dan P2 (60% konsentrat + 40% Jerami padi amoniasi + 10% tepung daun sirih). Setiap perlakuan diulang enam kali sehingga terdapat 18 unit percobaan. Peubah respon yang diamati dan diukur adalah kecernaan protein kasar dan serat kasar pakan. Data yang diperoleh dianalisis menggunakan analisis variansi dan dilanjutkan dengan uji *orthogonal polynomial*. Rataan Kecernaan protein kasar yang diperoleh yaitu P0 = 26,51 ± 3,51%, P1 = 31,40 ± 1,46%, dan P2 = 30,71 ± 1,36% ; rataan kecernaan serat kasar yang diperoleh P0 = 47,26 ± 1,92%, P1 = 46,06 ± 1,15%, dan P2 = 43,95 ± 1,10%. Penambahan daun sirih dalam pakan meningkatkan kecernaan protein kasar secara kuadrater dengan persamaan $y = 26,51 + 1,5358x - 0,1116x^2$ dengan R^2= 51% dan titik puncak P (6,88 ; 31,79). Penambahan daun sirih dalam pakan menurunkan kecernaan serat kasar secara linier dengan persamaan $y = 47,431 - 0,3337x$ dengan r^2= 51%. Berdasarkan hasil penelitian disimpulkan bahwa ditinjau dari kecernaan protein kasar taraf penambahan tepung daun sirih terbaik yaitu 6,88%. Penambahan daun sirih menurunkan secara linier kecernaan serat kasar.

Kata kunci : sirih, *in vitro*, kecernaan, protein kasar, serat kasar,

ABSTRACT

MIFTAHUDIN AHMAD. The study aims to examine the effect of betel leaf in goat feed used in vitro technique of crude protein and crude fiber digestibility that has been conducted on December 11th, 2019 - January 17th, 2020 in The Laboratory of Animal Nutrition and Feed Stuff, Animal Science Faculty of Jenderal Soedirman University, Purwokerto. The material used of 3 rumen goats, basal feed consisted of a concentrate containing balanced coconut meal and rice bran with 2:1 balance, ammoniated rice straw with a 60:40 balance, and supplemented 0%, 5%, and 10% of betel leaf meal. The experimental design used was a completely randomized design with three treatments and six replicates. The treatment were P0 (60% concentrate + 40% ammoniated rice straw + 0% betel leaf meal), P1 (60% concentrate + 40% ammoniated rice straw + 5 %betel leaf meal), P2 (60% concentrate + 40% ammoniated rice straw + 10% betel leaf meal). The variables are protein and crude fiber digestibility. Data were analyzed by analysis of variance (ANOVA) and the result was significantly followed tested using an orthogonal polynomial test. The means of crude protein digestibility were P0 = 26,51 ± 3,51%, P1 = 31,40 ± 1,46%, dan P2 = 30,71 ± 1,36% ; The means of crude fiber digestibility were P0 = 47,26 ± 1,92%, P1 = 46,06 ± 1,15%, dan P2 = 43,95 ± 1,10%. The supplementation of betel leaf meal increased crude protein digestibility quadratically with equation y = 26,51 + 1,5358x – 0,1116x2, R2= 0,51 and the peak point was P (6,88 ; 31,79). The supplementation of betel leaf meal increased crude fiber digestibility linearly with equation y = 47,431 – 0,3337x and r2= 0,5113. Based on the result, it concluded that the best of crude protein digestibility supplemented betel leaf meal was 6,88%. Betel leaf supplementation decreased linearly crude fiber digestibility.

Keywords: Betel leaf, in vitro, digestible, crude protein, crude fiber.