

RINGKASAN

TRI SUPRPTI. Penelitian berjudul kadar N-NH₃ dan VFA secara *in vitro* pada daun-daun ubi jalar, kacang tanah, kacang panjang, dan kembang sepatu yang ditambah konsentrat. Penelitian bertujuan untuk mengetahui produksi N-NH₃ dan VFA yang optimal dari daun ubi jalar, daun kacang tanah, daun kacang panjang, dan daun kembang sepatu. Materi yang digunakan berupa daun ubi jalar, daun kacang tanah, daun kacang panjang, dan daun kembang sepatu, konsentrat yang terdiri dari pollard, bungkil kelapa, onggok, mineral, dedak padi, dan urea. Imbangan konsentrat dengan hijauan yang digunakan adalah 60%: 40%.

Penelitian menggunakan metode eksperimental secara *in vitro* dilaksanakan di Laboratorium Ilmu Nutrisi dan Makanan Ternak. Rancangan penelitian yang digunakan yaitu rancangan acak lengkap dengan 4 perlakuan dan 5 ulangan. Perlakuan yang diuji yaitu P1 (daun ubi jalar 40%+konsentrat 60%), P2 (daun kacang tanah 40%+konsentrat 60%), P3 (daun kacang panjang 40%+konsentrat 60%), dan P4 (daun kembang sepatu 40%+konsentrat 60%). Peubah yang diamati yaitu kadar N-NH₃ dan VFA. Data dihitung dengan menggunakan persamaan aljabar kemudian dianalisis menggunakan analisis variansi dan diuji lanjut dengan uji beda nyata jujur (BNJ).

Hasil penelitian menunjukkan rata-rata kadar N-NH₃ adalah P1=10.625±0.783 mM, P2=8.525±0.694 mM, P3=7.875±1.294 mM, dan P4=12.525±0.371 mM. Hasil penelitian menunjukkan rata-rata kadar VFA adalah P1=123±4.2 mM, P2=134±5.0 mM, P3=119±3.5 mM, dan P4=113±8.2 mM. Hasil analisis variansi menunjukkan bahwa penggunaan keempat hijauan sebagai pakan berpengaruh sangat nyata (P<0,01) terhadap produk N-NH₃ dan VFA. Kandungan protein kasar tidak mempengaruhi kadar N-NH₃. Kandungan serat kasar mempengaruhi kadar VFA.

Kata kunci: *Nitrogen-amonia (N-NH₃), Volatile Fatty Acid (VFA), daun ubi jalar, daun kacang tanah, daun kacang panjang, dan daun kembang sepatu.*

SUMMARY

TRI SUPAPTI. The research entitled Levels of N-NH₃ and VFA by in vitro on leaves sweet potatoes, peanuts, long beans, and hibiscus coupled concentrate. The aim of the research is to know the optimal N-NH₃ and VFA production from rumen fluids of 3 male PO cows, sweet potatoes leaves, peanut leaves, long beans leaves, and hibiscus leaves. The material used in the research were sweet potatoes leaves, peanut leaves, long beans leaves, and hibiscus leaves, as well as concentrate comprising pollard, copra meal, cassava, minerals, rice bran and urea. The ratio of concentrate and grass used was 60%: 40%.

The research method was experimental *invitro* at animal nutrition and feed laboratory. Using Completely Randomized Design (CRD) with 4 treatments and 5 replications. The treatments used were P1 (sweet potatoes leaves, 40% + concentrate 60%), P2 (peanut leaves, 40% + concentrate 60%), P3 (long beans leaves, 40% + concentrate 60%), and P4 (hibiscus leaves 40% + concentrate 60%). The variables were the levels of N-NH₃ and VFA. Data were calculated by using an algebraic method then the date were analysed using analysis of variance and followed by honesty significant difference (HSD) test.

The results showed, the average P₁'s 10.625±0.783 mM of N-NH₃ concentration P₂'s 8.525±0.694 mM, P₃'s 7.875±1.294 mM, and P₄'s 12.525±0.371 mM. Average of VFA concentration is P₁'s 123±4.2 mM, P₂'s 134±5.0 mM, P₃'s 119±3.5 mM, and P₄'s 113±8.2 mM. Analysis of variance showed that treatment were very significantly affected (P<0.01) on N-NH₃ and VFA. The content of crude protein did not influence the levels of N-NH₃. The content of crude fiber influenced the levels of VFA.

Key words: Nitrogen-amonia (N-NH₃), Volatile Fatty Acid (VFA), sweet potatoes leaves, peanuts leaves, long beans leaves, and hibiscus leaves