

RINGKASAN

FIRMAN ARDISUKMANA. Suplementasi Ekstrak Sirih Merah Pada Pakan Sapi Potong Terhadap Kecernaan Bahan Kering (KBK), Kecernaan Bahan Organik (KBO) dan *Volatile Fatty Acids* (VFA) Total Secara *In-Vitro*. Penelitian bertujuan untuk menetapkan level terbaik pemberian ekstrak sirih merah (*Piper crocatum*) pada pakan sapi potong terhadap kecernaan bahan kering, kecernaan bahan organik dan VFA total. Penelitian menggunakan metode eksperimental secara *in-vitro* dilaksanakan di Laboratorium Ilmu Bahan Makanan Ternak. Rancangan penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan analisis variansi. Perlakuan level ekstrak sirih merah pada pakan sapi potong adalah R1 = 0 ppm; R2 = 15 ppm; R3 = 30ppm; R4 = 45 ppm; R5 = 60 ppm dan empat kali ulangan.

Hasil penelitian menunjukkan rata-rata kecernaan bahan kering (KBK) adalah R1 = $46.90 \pm 16.50\%$, R2 = $46.06 \pm 26.62\%$, R3 = $45.80 \pm 11.32\%$, R4 = $45.02 \pm 7.96\%$, R5 = $44.27 \pm 4.99\%$. Rataan kecernaan bahan organik (KBO) R1 = $51.50 \pm 16.67\%$, R2 = $50.49 \pm 24.97\%$, R3 = $49.02 \pm 10.99\%$, R4 = $49.37 \pm 5.97\%$, R5 = $48.42 \pm 4.56\%$. Rataan konsentrasi *Volatile Fatty Acids* (VFA) R1 = $113.50 \pm 17.00\text{mM}$, R2 = $113.00 \pm 6.00\text{mM}$, R3 = $120.50 \pm 9.00\text{mM}$, R4 = $128.00 \pm 200\text{mM}$, R5 = $118.25 \pm 14.91\text{mM}$. Hasil analisis variansi menunjukkan bahwa pemberian ekstrak sirih merah berpengaruh tidak nyata ($P > 0,05$) terhadap kecernaan bahan kering, kecernaan bahan organik, dan *volatile fatty acids*.

Kata kunci : kecernaan bahan kering (KBK), kecernaan bahan organik (KBO), *volatile fatty acids* (VFA), sirih merah

SUMMARY

FIRMAN ARDISUKMANA. Supplementation of Piper Betel Extract in The Diet of Beef Cattle And Its Effect On Dry Matter Digestibilities (DMD), Organic Matter Digestibilities (OMD) And *Volatile Fatty Acids* (VFA) Concentration by In-Vitro. The aim of the research to determine best level additional of piper betel (*Piper crocatum*) extract in the diet of beef cattle and its effect on dry matter digestibilities, organic matter digestibilities and VFA concentration. The research method was experimental in-vitro at laboratory of livestock feedstuff science. Using Completely Randomized Design (CRD) with analysis of variation, five treatments additional piper betel extract in the diet of beef cattle were R1 = 0 ppm; R2 = 15 ppm; R3 = 30ppm; R4 = 45 ppm; R5 = 60 ppm and four replicaties.

The result showed average of dry matter digestibilities (DMD) were R1 = $46.90 \pm 16.50\%$, R2 = $46.06 \pm 26.62\%$, R3 = $45.80 \pm 11.32\%$, R4 = $45.02 \pm 7.96\%$, R5 = $44.27 \pm 4.99\%$. Average of organic matter digestibilities (OMD) R1 = $51.50 \pm 16.67\%$, R2 = $50.49 \pm 24.97\%$, R3 = $49.02 \pm 10.99\%$, R4 = $49.37 \pm 5.97\%$, R5 = $48.42 \pm 4.56\%$. Average of VFA concentration R1 = $113.50 \pm 17.00\text{mM}$, R2 = $113.00 \pm 6.00\text{mM}$, R3 = $120.50 \pm 9.00\text{mM}$, R4 = $128.00 \pm 20\text{mM}$, R5 = $118.25 \pm 14.91\text{mM}$. Analysis of variance showed that treatment were no significant effect ($P > 0.05$) on dry matter digestibility, organic matter digestibility, and *volatile fatty acids*.

Keywords : dry matter digestibilities (DMD), organic matter digestibilities (OMD), volatile fatty acids (VFA), piper betel