

**PENGARUH PENAMBAHAN MINYAK ASIRI CENGKEH
(*Eugenia aromaticum*) PADA RANSUM TERHADAP
KECERNAAN NUTRIEN DI DALAM RUMEN
SECARA *IN VITRO***

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan minyak asiri cengkeh (*Eugenia aromaticum*) pada ransum terhadap pencernaan nutrisi di dalam rumen secara *in vitro*. Perlakuan yang diberikan adalah penambahan minyak asiri cengkeh dengan level 0, 25, 50, 75, dan 100 mg/l medium dalam ransum PK 9.98%. Masing-masing perlakuan dilakukan 3 kali ulangan. Variabel yang diambil yaitu pencernaan bahan kering (KcBK), pencernaan bahan organik (KcBO), pencernaan serat kasar (KcSK), pencernaan protein kasar (KcPK), dan pH. Data yang diperoleh dianalisis dengan analisis variansi pola searah. Perbedaan variabel karena adanya perbedaan perlakuan diuji dengan *Duncan's multiple range test* (DMRT). Hasil analisis menunjukkan penambahan minyak asiri cengkeh menurunkan KcBK, KcBO, dan KcPK ($p < 0,01$). Penambahan minyak asiri dengan level 25, 50, 75, 100 mg/l menurunkan KcBK secara berturut-turut sebesar 15,04, 22,41, 23,81, dan 30,72%, sedangkan penurunan KcBO yaitu 12,21, 18,78, 20,49, dan 25,95%, dan KcPK menurun sebesar 3,46, 21,66, 19,16, dan 31,47 %. Penambahan minyak asiri cengkeh meningkatkan KcSK. Penambahan level 25, 50, 75 mg/l meningkatkan KcSK secara berurutan sebesar 29,79, 45,45, dan 47,05% dibandingkan dengan kontrol. Penambahan minyak asiri cengkeh hingga level 100 mg/l meningkatkan pH, namun masih dalam kisaran normal untuk fermentasi rumen. Berdasarkan data yang diperoleh dapat disimpulkan bahwa, minyak asiri dapat digunakan sebagai pakan aditif untuk modifikasi fermentasi rumen.

Kata kunci : Cengkeh, Minyak asiri, *In vitro*, Pencernaan bahan pakan

EFFECT OF CLOVE (*Eugenia aromaticum*) ESSENTIAL OILS ADDITION IN DIET ON *IN VITRO* RUMINAL DIGESTIBILITY

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ABSTRACT

This research was aimed to observe the effect of cloves essential oil (*Eugenia aromaticum*) addition in rations on the digestibility of nutrients in rumen *in vitro* gas production. Each treatment was addition of clove essential oil at levels 0, 25, 50, 75, and 100 mg/l. Substrat for *in vitro* fermentation contained crude protein 9.98%. The treatment's had 3 replications. Data collected were dry matter digestibility (DMD), organic matter digestibility (OMD), crude fiber digestibility (CFD), crude protein digestibility (CPD), and pH . The collected data was analyzed by one way variance analysis. The different between mean was tested by Duncan's new Multiple range test (DMRT). The result showed addition of clove essential oils decreased DMD, OMD, and CPD ($p < 0.01$). Reduction of DMD with addition clove essential oil at levels 25, 50, 75, and 100 mg/l were 15.04, 22.41, 23.81, 30.72% ($P < 0.01$), whereas for OMD reduction were 12.21, 18.78, 20.49, 25.95% and for CPD were 3.46, 21.66, 19.16, and 31.47 and respectively. Crude protein digestibility (CFD) increase by addition of clove essential oil. The increasement were 29.79, 45.45, and 47.05% as addition level 25, 50, 75 mg/l compared to control. Addition clove essential oils up to 100 mg/l increase pH, eventhough the pH in range of normal pH for rumen fermentation. It could be concluded that clove essential oil could be uses as rumen fermentation modifier.

Keywords: Clove, Essential Oil, *In vitro*, Digestibility of feed ingredients