

PENGARUH PERBEDAAN KADAR AIR KONSENTRAT FERMENTASI BERBASIS BUNGKIL NYAMPLUNG (*Calophyllum inophyllum* L.) TERHADAP KECERNAAN DAN KARAKTERISTIK FERMENTASI RUMEN SECARA *IN VITRO*

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh perbedaan level kadar air pada konsentrat fermentasi berbasis bungkil nyamplung (*Calophyllum inophyllum* L.) terhadap kecernaan dan karakteristik fermentasi rumen secara *in vitro*. Penelitian ini menggunakan konsentrat yang telah difermentasi selama 60 hari dengan 3 level kadar air berbeda yaitu 25% (KA 1), 30% (KA 2), dan 35% (KA 3). Konsentrat tersusun dari campuran molases, bungkil nyamplung, gaplek, *wheat pollard*, *soy bean meal* (SBM), dan saus burger pakan (SBP)[®] yang diformulasi untuk mendapatkan kadar protein kasar sebesar 16% dan energi sebesar 14 MJ/kg. Parameter penelitian meliputi kecernaan bahan kering (KcBK), kecernaan bahan organik (KcBO), pH, kadar *volatile fatty acids* (VFA), dan kadar amonia (NH₃). Data yang diperoleh dianalisis menggunakan rancangan acak lengkap pola searah (*one way ANOVA*) dan jika diperoleh hasil yang signifikan ($P < 0,05$) maka dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa perlakuan perbedaan level kadar air tidak memberikan perbedaan yang nyata pada nilai kecernaan bahan kering, kecernaan bahan organik, pH, VFA, dan amonia. Penelitian ini menunjukkan bahwa tidak terdapat pengaruh antara perbedaan level kadar air pada nilai kecernaan dan karakteristik fermentasi rumen pada konsentrat fermentasi. Berdasarkan hasil penelitian, dapat disimpulkan bahwa penggunaan level kadar air 25%, 30%, dan 35% masih mendukung kondisi rumen yang optimal tetapi belum bisa mendukung proses fermentasi rumen secara optimal.

Kata kunci: Bungkil nyamplung, kadar air, kecernaan, *in vitro*, dan konsentrat fermentasi

**THE EFFECT OF DIFFERENT MOISTURE CONTENT IN FERMENTED
CONCENTRATE BASED ON NYAMPLUNG PRESS CAKE
(*Calophyllum Inophyllum* L.) IN DIGESTIBILITY AND
CHARACTERISTICS OF RUMEN
FERMENTATION BY *IN VITRO***

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ABSTRACT

This study aims to determine the effect of the different levels of moisture content in nyamplung (*Calophyllum inophyllum* L.) press cake fermented concentrate on digestibility and rumen fermentation characteristics in vitro. This study used a concentrate that had been fermented for 60 days with 3 different levels of moisture content, namely 25% (KA 1), 30% (KA 2), and 35% (KA 3). The concentrate was composed of a mixture of molasses, nyamplung press cake, cassava, wheat pollard, soybean meal (SBM), and burger feed sauce (SBP)® which was formulated to obtain a crude protein level of 16% and energy of 14 MJ/kg. Research parameters included dry matter digestibility (KcBK), organic matter digestibility (KcBO), pH, volatile fatty acids (VFA) content, and ammonia content (NH₃). The data obtained were analyzed using a one-way ANOVA and if significant results were obtained (P<0.05) then proceeded with the Duncan Multiple Range Test (DMRT). The results showed that the treatment of different levels of water content did not give significant differences in the value of dry matter digestibility, organic matter digestibility, pH, VFA, and NH₃. This study shows that there is no effect between different levels of moisture content on the value of digestibility and rumen fermentation characteristics of fermented concentrates. Based on the study's results, it can be concluded that the use of moisture content levels of 25%, 30%, and 35% still support optimal rumen conditions but cannot support the rumen fermentation process optimally.

Keywords: Digestibility, fermented concentrate, *in vitro*, moisture content, and nyamplung press cake.