

**PENGARUH IMBANGAN SUPLEMENTASI KOMBINASI
MINYAK KEDELAI (*Glycine max* L.) PROTEKSI DAN
NON PROTEKSI TERHADAP KECERNAAN
NUTRIEN PAKAN SECARA *IN VITRO***

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh imbangan suplementasi kombinasi minyak kedelai terproteksi dan non terproteksi terhadap pencernaan nutrisi secara *in vitro*. Proteksi asam lemak menggunakan susu afkir dan formaldehid. Substrat pakan terdiri dari 60% rumput gajah dan 40% *bran pollard*, kemudian di suplementasikan minyak kedelai terproteksi dan minyak kedelai non proteksi dengan berbagai level imbangan yaitu 0%:5%, 1,25%:3,75%, 2,5%:2,5%, 3,75%:1,25%, dan 5%:0% berdasarkan BK substrat. Penelitian ini terdiri tiga ulangan. Penentuan nilai pencernaan nutrisi meliputi pencernaan bahan kering (KcBK), pencernaan bahan organik (KcBO), pencernaan protein kasar (KcPK), dan pencernaan serat kasar (KcSK) yang dilakukan secara *in vitro* menggunakan metode Tilley and Terry dengan waktu inkubasi 48 jam untuk pencernaan di dalam rumen dan 96 jam untuk pencernaan total. Data yang diperoleh dianalisis menggunakan analisis variansi pola searah, kemudian bila terdapat perbedaan nyata dilanjutkan dengan uji *Duncan's New Multiple Range Test*. Hasil penelitian menunjukkan bahwa Suplementasi kombinasi minyak kedelai terproteksi dan minyak kedelai non terproteksi pada level 5%:0% meningkatkan total KcBK, KcBO dalam rumen, namun menurunkan KcPK dalam rumen.

Kata kunci: Minyak kedelai, Proteksi, Asam lemak, Pencernaan, *In vitro*

**THE EFFECT OF COMBINATION OF PROTECTED AND
NON PROTECTED SOYBEAN OIL (*Glycine max* L.)
SUPPLEMENTATION ON *IN VITRO*
NUTRIENT DIGESTIBILITY**

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ABSTRACT

This study aims to determine the effect of the combination of protected and non protected soybean oil supplementation on nutrient digestibility *in vitro*. Fatty acid protection using rejected milk and formaldehyde. Feed substrate consists of 60% elephant grass and 40% bran pollard, then supplemented with protected soybean oil and non-protected soybean oil with various levels of balance, namely 0%:5%, 1.25%:3.75%, 2.5%:2.5%, 3.75%:1, 25%, and 5%:0% based on BK substrate. This study consisted of three replications. Determination of nutrient digestibility values including dry matter digestibility (DMD), organic matter digestibility (OMD), crude protein digestibility (CPD), and crude fiber digestibility (CFD) were carried out *in vitro* using the Tilley and Terry method with an incubation time of 48 hours for digestibility. in the rumen and 96 hours for total digestibility. The data obtained were analyzed using unidirectional pattern variance analysis, then if there was a significant difference, it was continued with Duncan's New Multiple Range Test. The results showed that supplementation of the combination of protected soybean oil and non-protected soybean oil at the level of 5%:0% increased total DMD, OMD in the rumen, but decreased CPD in the rumen.

Keywords: Soybean oil, Protection, Fatty acids, *In vitro* digestibility