

**PENGARUH PENGGUNAAN PELET KOMBINASI DAUN AKASIA
(*Acacia mangium* Willd) MAHONI (*Swietenia mahagoni*) DAN
NANGKA (*Artocarpus heterophyllus*) SEBAGAI SUMBER
TANIN TERHADAP KECERNAAN NUTRIEN
SECARA IN VITRO**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pelet kombinasi daun akasia (*Acacia mangium* Willd), mahoni (*Swietenia mahagoni*), dan nangka (*Artocarpus heterophyllus*) sebagai sumber tanin terhadap pencernaan nutrisi secara *in vitro* dengan menggunakan substrat hijauan dan konsentrat (60:40). Penelitian ini menggunakan tiga perlakuan substrat dengan level tanin yang berbeda yaitu level 0%, 1%, dan 2% berdasarkan presentase bahan kering (BK). Analisis pencernaan dilakukan secara *in vitro* dengan metode Tilley and Terry dua tahap yang dilakukan di Laboratorium Biokimia Nutrisi Fakultas Peternakan UGM. Parameter yang diamati adalah pencernaan bahan kering, bahan organik, serat kasar, dan protein kasar di dalam rumen dan abomasum (total). Data dianalisis dengan analisis variansi pola searah (*One Way ANOVA*) dan hasil yang menunjukkan nilai rerata yang berbeda nyata, dilanjutkan uji *Duncan's New Multiple Range Test* (DMRT) dengan bantuan *Statistical Product and Service Solution* (SPSS). Hasil penelitian menunjukkan bahwa penambahan pelet campuran daun akasia, mahoni, dan nangka sebagai sumber tanin dengan level tanin hingga 2% mampu menurunkan pencernaan protein kasar di rumen ($P < 0,05$) dan juga mampu meningkatkan pencernaan protein kasar total ($P < 0,05$) tanpa mengganggu pencernaan bahan kering, bahan organik, dan serat kasar pada pencernaan di rumen dan total. Berdasarkan hasil penelitian dapat disimpulkan bahwa penambahan pelet tanin sampai level 2% secara efektif mampu memproteksi protein tanpa mengganggu pencernaan bahan kering, bahan organik, dan serat kasar di rumen dan total.

Kata kunci: *In Vitro*, Pencernaan Nutrien, Tanin, Pelet,

**THE EFFECT OF USING PELLET WITH COMBINATION LEAVES OF
Acacia mangium Wild, *Swietenia mahagoni* AND *Artocarpus
heterophyllus* AS TANNIN SOURCE ON IN VITRO
NUTRIENT DIGESTIBILITY**

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ABSTRACT

The objective of this research was to determine the effect of pellet with a combination of acacia leaves (*Acacia mangium* Willd), mahogany (*Swietenia mahagoni*), dan jackfruit (*Artocarpus heterophyllus*) as a source of tannins on *in vitro* nutrient digestibility using substrate forage and concentrates (60:40). This research used three substrate treatments with different tannin levels at 0%, 1%, and 2% with based on the percentage of dry matter (DM). Digestibility analysis was carried out *in vitro* using the two stages Tilley and Terry method. Parameters observed were digestibility of dry matter, organic matter, crude fiber, and crude protein in the rumen and abomasum (total). The data were analysed by one way analysis of variance (ANOVA) and results that show a significantly different mean value, the Duncan's New Multiple Range Test (DMRT) is carried out with Statistical Product and Service Solution (SPSS) program. The results showed that the addition of pellets as a source of tannins with level up to 2% reduced the digestibility of crude protein in the rumen ($P < 0.05$), but increased the digestibility of crude protein in the abomasum digestibility (total) ($P < 0.05$) without any effects on the digestibility of dry matter, organic matter, and crude fiber. Based on the results of the research, it can be concluded that the addition of pellets tannin up to a level of 2% can effectively protect protein without interfering with the digestibility of dry matter, organic matter, and crude fiber in the rumen and total.

Keywords: *In Vitro*, Nutrient Digestibility, Tannins, Pellets