

PENGARUH PENAMBAHAN SERASAH DAUN JATI (*Tectona grandis*) SEBAGAI SUMBER TANIN TERHADAP PRODUKSI GAS SECARA *IN VITRO*

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan serasah daun jati terhadap parameter fermentasi pakan di dalam rumen dengan metode *in vitro* gas tes. Penambahan serasah daun jati setara dengan level tanin 0, 1, 2, 3, dan 4% BK pakan. Pakan terdiri dari 60% rumput raja dan 40% konsentrat. Aplikasi fermentasi pakan dengan metode *in vitro* gas tes dilakukan selama 48 jam dengan 3 kali pengulangan. Parameter yang diamati meliputi produksi gas kumulatif, pH, protein kasar tercerna, bahan organik tercerna, bahan kering tercerna, kadar amonia (NH₃), dan sintesis protein mikrobia. Rancangan penelitian yang digunakan dalam penelitian ini adalah rancangan acak lengkap pola searah. Data yang diperoleh dianalisis variansi pola searah dilanjutkan dengan uji *Duncan's multiple range test* (DMRT). Hasil penelitian menunjukkan besarnya produksi gas kumulatif, fraksi a, fraksi b, fraksi c, pH, protein kasar tercerna, bahan organik tercerna, bahan kering tercerna, kadar NH₃, dan produksi protein mikrobia pada fermentasi tanpa penambahan tanin (kontrol) secara berturut turut 48,900 ml/300 mg BK; 1,693 ml/300 mg BK; 79,658 ml/300 mg BK; 7,11; 0,023 ml/jam; 37,84%; 75,21%; 71,16%; 7,89 mg/100 ml; dan 9,97 mg/100 ml. Penambahan serasah daun jati pada level tanin 2%, 3%, 4% BK pakan berpengaruh terhadap produksi gas kumulatif, fraksi a, fraksi b, fraksi c, protein kasar tercerna, bahan kering tercerna, bahan organik tercerna dan kadar NH₃. Penurunan produksi gas kumulatif sebesar 13,89%; 21,6%; dan 29,9%, fraksi a sebesar 77,14%; 73%; dan 92,97%, fraksi b sebesar 13,97%; 3,71%; dan 18,34%, fraksi c sebesar 13,04%; 39,13%; dan 26,08%; protein kasar tercerna sebesar 3,24%; 11,7%; dan 12,39%, bahan organik tercerna sebesar 11,83%; 15,19%; dan 17,74%, bahan kering tercerna sebesar 7,06%; 11%; dan 11,5%, kadar NH₃ sebesar 10,7%; 22,81%; dan 34,8% dari kontrol. Penambahan serasah daun jati sebagai sumber tanin tidak berpengaruh nyata terhadap nilai pH, dan sintesis protein mikrobia. Dari hasil penelitian dapat disimpulkan bahwa penambahan serasah daun jati setara dengan level tanin 2 sampai 4% BK pakan dapat menurunkan degradasi pakan di dalam rumen tanpa mempengaruhi kondisi normal rumen.

Kata Kunci : serasah daun jati, produksi gas, gas tes, tanin.

THE EFFECT OF FALLEN TEAK LEAVES (*Tectona grandis* Linn.) AS TANNIN SOURCE ON *IN VITRO* GAS PRODUCTION TECHNIQUE

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ABSTRACT

This study was done to determine the effect of fallen teak leaves as tannin source on *in vitro* gas production technique. The fallen teak leaves addition was equal to 0%, 1%, 2%, 3% and 4% dry matter (DM) basis. Feed as substrat was consisted of 60% grass and 40% concentrate. Ruminant fermentation using *in vitro* gas test method was done in 48 hours and each treatment consisted of 3 replicates. The parameters measured were cumulative gas production, pH, crude protein digestibility, organic matter digesbitibility, dry matter digestibility, ammonia (NH₃) content and microbial protein synthesis. This study used complete randomized design as experimental design. Collected data were analyzed using one way analysis of variance and then followed by Duncan's multiple range test (DMRT) for any differences. The result showed that cumulative gas production, fermentable fraction a, fermentable fraction b, fermentable fraction c, pH, crude protein digestibility, organic matter digesbitibility, dry matter digestibility, NH₃ and microbial protein without tannin addition as much as 48.900 ml/300 mg DM; 1,693 ml/300 mg DM; 79,658 ml/300 mg DM; 7.11%; 37.84%; 75.21%; 71.16%; 7.89mg/100ml; and 9.97 mg/100 ml respectively. Fallen teak leaves additon equals to level of basis tannin 2%, 3% and 4% DM feed decreased cumulative gas production as much as 13.89%; 21.6%; and 29.9%, fermentable fraction a as much as 77.14%; 73%; and 92.97%, fermentable fraction b as much as 13.97%; 3.71%; and 18.34%, fermentable fraction c as much as 13,04%; 39,13%; and 26,08%, crude protein digestibility 3.24%; 11.7%; and 12.39%, organic matter digestibility 11.83%; 15.19%; and 17.74%, dry matter digestibility 7.06%; 11%; and 11.5%, NH₃ 10.7%; 22.81%; and 34.8% compared to control. Addition of fallen teak leaves did not affected pH and microbial protein. It could be concluded that addition of fallen teak leaves as much as 2%, 3%, and 4% DM level tannin decreased feed degradability in rumen without affected rumen normal condition.

Key Words : fallen teak leaves, cumulative gas production, tannin.