

**PENGARUH MACAM PENGAWET DAN LAMA  
PENYIMPANAN YANG BERBEDA TERHADAP KUALITAS  
*HAY Calliandra calothyrsus* dan *Gliricidia sepium***

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**INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh macam pengawet dan lama penyimpanan yang berbeda terhadap kualitas fisik, kimia, dan pencernaan secara *in vitro* hay leguminosa. Tahapan penelitian yang dilakukan yaitu pengumpulan hijauan, pengeringan di *dome*, pengangkatan hijauan, preparasi pengawet asam propionat dan garam, pemrosesan hay, penyimpanan sampel, pengambilan sampling sampel dan analisis laboratorium. Penelitian ini menggunakan hijauan *Calliandra calothyrsus* dan *Gliricidia sepium* dengan perlakuan penambahan pengawet garam dan asam propionat konsentrasi 1%. Lama penyimpanan yang dilakukan yaitu pada bulan ke-0, 2, dan 4 setelah pembuatan. Hasil analisis didapatkan kualitas secara fisik dan kimia. Hasil analisis fisik dilakukan dengan deskriptif, sedangkan analisis kimia meliputi bahan kering (BK), bahan organik (BO), protein kasar (PK), ekstrak eter (EE), *acid detergent fiber* (ADF), *neutral detergent fiber* (NDF), pencernaan bahan kering (KcBK) dan bahan organik (KcBO) serta perhitungan nilai relatif pakan. Pengaruh penambahan macam pengawet, lama penyimpanan, dan interaksi keduanya dianalisis menggunakan Rancangan Acak Lengkap pola Faktorial dan apabila signifikan dilanjutkan dengan uji DMRT. Hasil penelitian dengan perlakuan penambahan pengawet menunjukkan adanya perubahan uji fisik karakteristik pada kedua hay, serta tidak memberikan pengaruh yang nyata ( $P > 0,05$ ) terhadap kualitas kimia kedua hay. Perlakuan lama penyimpanan memberikan pengaruh perubahan kualitas fisik setiap karakteristik kedua hay, penurunan kadar air, ADF, NDF, kenaikan kadar BK, BO, PK, EE, RFV, KcBK dan KcBO kedua hay.

(Kata kunci: ADF/NDF, Hay, Pencernaan *in vitro*, Kualitas fisik dan kimia, Pengawet, Penyimpanan)

**EFFECT OF DIFFERENT PRESERVATIVES  
AND STORAGE PERIOD ON QUALITY OF HAY  
*Calliandra calothyrsus* and *Gliricidia sepium***

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**ABSTRACT**

This study aims to determine the effect of different types of preservatives and storage time on the physical, chemical, and digestibility quality of legume *hay* in vitro. The stages of the research are forage collection, drying in the dome, forage removal, preparation of propionic acid and salt preservatives, *hay* processing, sample storage, sampling of samples and laboratory analysis. This study used forages *Calliandra calothyrsus* and *Gliricidia sepium* with the addition of salt preservatives and 1% concentration of propionic acid. The storage time was carried out in the 0, 2, and 4 months after treatment. The results of the analysis obtained physical and chemical quality. The results of the physical analysis were carried out descriptively, while the chemical analysis included dry matter (BK), organic matter (BO), crude protein (PK), ether extract (EE), acid detergent fiber (ADF), neutral detergent fiber (NDF), digestibility dry matter (KcBK) and organic matter (KcBO) as well as the calculation of the relative value of feed. The effect of adding preservatives, storage time, and their interactions were analyzed using a completely randomized design with a factorial pattern and if significant, continued with the DMRT test. The results of the study with the addition of preservatives showed that there was a change in the physical characteristics of the two *hays*, and did not have a significant effect ( $P>0,05$ ) on the chemical quality of the two *hays*. The storage time treatment had an effect on changes in the physical quality of each characteristic of the two *hays*, decreased moisture content, ADF, NDF, increased levels of BK, BO, PK, EE, RFV, KcBK and KcBO in both *hays*.

(Keywords: ADF/NDF, *Hay*, *In vitro* digestibility, Physical and chemical qualities, Preservatives, Storage)