

PENGARUH PENGGUNAAN BAKTERI ASAM LAKTAT HOMO DAN HETERO FERMENTATIF TERHADAP KUALITAS *HAYLAGE* RUMPUT BLEMBEM (*Ischaemum sp.*)

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan bakteri asam laktat (BAL) homofermentatif (*Lactiplantibacillus plantarum* strain FNCC 020) dan heterofermentatif (*Limosilactobacillus fermentum* strain BN21) terhadap kualitas kimia, karakteristik fermentasi, dan fisik *haylage* rumput blembem (*Ischaemum sp.*). Rumput blembem dipanen pada umur 45 hari kemudian dicacah dengan ukuran 3 – 5 cm lalu dikeringkan selama 2 hari hingga mendapatkan kadar air 45%. Rumput yang telah dikeringkan kemudian difermentasi dalam *mini* silo (5 kg) selama 28 hari dengan 4 ulangan menggunakan inokulum yang berbeda, meliputi: tanpa inokulum (CON), *L. plantarum* strain FNCC020 1×10^5 cfu/g (LP), dan *L. fermentum* strain BN21 1×10^5 cfu/g (LF). Setelah silo dibuka, *haylage* disampling sebanyak 200 g untuk uji komposisi kimia dan uji karakteristik fermentasi. Hasil penelitian menunjukkan bahwa penggunaan inokulum BAL homofermentatif dan heterofermentatif tidak berpengaruh ($p > 0,05$) terhadap komposisi kimia *haylage* rumput blembem setelah 28 hari fermentasi. Pada karakteristik fermentasi, perlakuan BAL homofermentatif dan heterofermentatif juga tidak berpengaruh ($p > 0,05$) terhadap nilai pH, amonia-N, dan asam laktat. Pada penampakan fisik, perlakuan LF menghasilkan aroma yang lebih asam dan jamur yang hampir tidak ada. Penelitian ini menyimpulkan bahwa penggunaan inokulum *L. plantarum* dan *L. fermentum* belum mampu meningkatkan kualitas komposisi kimia dan karakteristik fermentasi *haylage* rumput blembem. Namun penggunaan inokulum *L. fermentum* mampu menghasilkan *haylage* rumput blembem dengan penampakan jamur yang rendah.

(Kata kunci: Adiktif, *Haylage*, Heterofermentatif, Homofermentatif, *Ischaemum sp.*)

EFFECT OF USING HOMO AND HETERO FERMENTATIVE LACTATIC ACID BACTERIES ON THE QUALITY OF BLEMBEM (*Ischaemum sp.*) HAYLAGE

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ABSTRACT

This study aims to determine the effect of the use of homofermentative lactic acid bacteria (LAB) (*Lactiplantibacillus plantarum* strain FNCC 020) and heterofermentative (*Limosilactobacillus fermentum* strain BN21) on the chemical quality, fermentation characteristics, and physical properties of blembem grass haylage (*Ischaemum sp.*). Blembem grass was harvested at the age of 45 days, then chopped into 3-5 cm pieces and dried for 2 days to obtain a water content of 45%. The dried grass was then fermented in a mini silo (5 kg) for 28 days with 4 replications using different inoculums, including: without inoculum (CON), *L. plantarum* strain FNCC020 1 x 10⁵ cfu/g (LP), and *L. fermentum* strain BN21 1 x 10⁵ cfu/g (LF). After the silo was opened, 200 g of haylage was sampled for chemical composition and fermentation characteristics tests. The results showed that the use of homofermentative and heterofermentative LAB inoculum had no effect ($p > 0.05$) on the chemical composition of blembem grass haylage after 28 days of fermentation. In terms of fermentation characteristics, homofermentative and heterofermentative LAB treatments also had no effect ($p > 0.05$) on pH, ammonia-N, and lactic acid values. In terms of physical appearance, LF treatment produced a moresour aroma and almost no fungi. This study concluded that the use of *L. plantarum* and *L. fermentum* inoculum had not been able to improve the quality of chemical composition and fermentation characteristics of blembem grass haylage. However, the use of *L. fermentum* inoculum was able to produce blembem grass haylage with low fungal appearance.

(Keywords: Addictive, Haylage, Heterofermentative, Homofermentative, *Ischaemum sp.*)