

## Nutrient Content of Napier Grass (*Pennisetum purpureum*) Silage Made with Various Additive and Modified Atmosphere in The Silo

<b>Title</b>	Nutrient Content of Napier Grass ( <i>Pennisetum purpureum</i> ) Silage Made with Various Additive and Modified Atmosphere in The Silo
<b>Author Order</b>	of
<b>Accreditation</b>	
<b>Abstract</b>	<p>Abstract. During ensilage, anaerob condition must be controlled. Some methods of modified atmosphere in silo were analyzed to compare ensilage characteristics and silage product. So far, there is not been information on the atmosphere condition in the process of silage production. It encourages the researchers to evaluate the condition of ensilage process of <i>Pennisetum purpureum</i> by studying atmosphere modification in the silo and the effect of the usage of various additives in the process of silage production. Elephant grass (<i>Pennisetum purpureum</i>), molasses, <i>L. acidophilus</i> were used. The study was conducted with a Completely Randomized Design (CRD) 3x2 factorial pattern. Atmosphere modification as the first factor consist of : (A0: silage with compaction (conventional) A1: silage with vacuum method, A2: silage with modified CO<sub>2</sub>) and two kinds of silage additives as the second factor (B1: indirect additive (molasses); B2: direct additive (Lactic Acid Bacteria). Each treatment combination was repeated 4 times. The objective of the research was to evaluate changes in nutrient content (protein, crude fiber, gross energy). The data obtained were analyzed by analysis of variance, then continued by Honest Significant Differences (HSD) test. Based on the research results it can be concluded that the optimum ensilage can take place, either by compaction methods (conventional), vacuum and the addition of CO<sub>2</sub>. While the addition of molasses additive produces silage with better quality than the addition of <i>L. Acidophilus</i> inoculant. Key words: Modified atmosphere, additives, silage</p> <p>Abstrak. Kondisi anaerob harus dikontrol selama ensilase. Beberapa metode modifikasi atmosfer silo dianalisa untuk membandingkan ciri dan hasil ensilase. Sejauh ini belum ada informasi kondisi atmosfer dalam proses produksi ensilase. Hal ini mendorong peneliti untuk mengevaluasi kondisi proses ensilase <i>Pennisetum purpureum</i> dengan mempelajari modifikasi atmosfer silo dan dampak penggunaan bermacam zat tambahan dalam proses pembuatan ensilase. Rumput gajah (<i>Pennisetum purpureum</i>), molase, <i>L. acidophilus</i> digunakan dalam penelitian dengan Rancangan Acak Lengkap (RAL) 3x2 pola faktorial. Modifikasi atmosfer sebagai faktor pertama terdiri dari: (A0: silase dengan pemadatan (konvensional), A1: silase dengan metode vakum, A2: silase dengan modifikasi CO<sub>2</sub>) dan dua jenis silase tambahan sebagai faktor kedua: B1: tambahan langsung (molase); B2: tambahan langsung (Bakteri Asam Laktat). Setiap kombinasi perlakuan diulang 4 kali. Tujuan penelitian adalah mengevaluasi perubahan dalam kandungan nutrisi (protein, serat kasar, energi kasar). Data yang diperoleh dianalisis dengan analisis variansi, dilanjutkan uji Beda Nyata Jujur (BNJ). Kesimpulan penelitian adalah ensilase optimal tercapai baik dengan metode pemadatan (konvensional), vakum, maupun penambahan CO<sub>2</sub>. Sedangkan tambahan molase menghasilkan silase dengan kualitas yang lebih baik daripada dengan <i>L. Acidophilus</i> inoculant. Kata kunci: modifikasi atmosfer, zat tambahan, silase</p>
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