

**THE INFLUENCE OF INOCULUM KIND ON PHYSICAL QUALITY
AND SILAGE FIBER FRACTION VALUES OF BANANA (*Musa
paradisiaca*) STEM**

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ABSTRACT^{*)}

This research aimed to determine the addition of inoculums that had the best influence on the physical quality, pH, in vivo and values of silage fiber fraction of banana stem (*Musa paradisiaca*) as alternative feed to meet the needs of animal feed during the dry season. This research was conducted on December 6th, 2017- January 26th, 2018 at Chemical Laboratory, Faculty of Agroindustry, Universitas Mercu Buana Yogyakarta. The method used was experimental method, using Completely Randomized Design (CRD) unidirectional pattern with three treatments and three repetitions; they were P1 without inoculum, P2 plus commercial 'X' inoculum, P3 plus local microorganism inoculum. The variables observed were physical quality (texture, odor, color and fungi), pH, in vivo, and fiber fraction values (hemicellulose, cellulose and lignin). The research results were analyzed by variance analysis and followed by Duncan's Multiple Range Test (DMRT) to know the difference among treatments. The results showed the average of physical quality test with panel test as follows: texture P1: 2.39; P2: 2.50 and P3: 2.56, odor P1: 2.67; P2: 2.83 and P3: 2.86, color P1: 2.03; P2: 2.36 and P3: 2.50, fungi P1: 2.93; P2: 2.93 and P3: 2.95. The analysis results of pH level were P1: 5.27; P2: 4.62 and P3: 4.58. The results of in vivo test were P1: 2.33; P2: 2.67 and P3: 2.67. The analysis results of fiber fraction were hemicellulose P1: 44.00%; P2: 43.34% and P3: 43.17%, cellulose P1: 15.59%; P2: 14.79% and P3: 14.20%, lignin P1: 4.43%; P2: 4.17% and P3: 4.12%. The results showed that the addition of inoculum was significantly ($P < 0.05$) different from all variables. It was concluded that commercial 'X' inoculum as well as local microorganisms from cow rumen fluid could improve the physical quality and decrease the values of silage fiber fraction of banana stem.

Keywords: Banana stem, silage, inoculums, fiber fraction

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