

## Abstract

This study was conducted to determine chemical composition and digestibility of banana by product silage treated by Urea, bacteria and non-edible palm additives. For this purpose, samples were crushed to a 3-4 cm pieces after pruning of leaves and stems of bananas,. Experimental treatments include: 1) silage of banana by product + straw (control), 2) silage of banana by product + straw + bacteria 3) non-edible palm by product banana silage + straw + 4) silage of banana by product + straw + urea 5) silage of banana by product + straw + bacteria + dates non-food 6) by product banana silage + straw + bacteria + urea 7) ) silage of banana by product + straw + urea non-edible palm 8) ) silage of banana by product + straw + urea + bacteria + non-edible palm and the study of banana straw, silage banana consumption of urea and other dates and amounts used bacteria colony forming unit per gram of forage, 80:20 , 10 percent , 2/5 percent and  $1 \times 10^5$  ; respectively . silage of each sample was prepared in bucket with 5 kg volume capacity. After 45 days, the silos were opened and samples were taken from them. The chemical composition of dry matter (DM), organic matter (OM), Ash, crude protein (CP), crude fat (EE), ammonia nitrogen (N-NH<sub>3</sub>), cell wall (NDF) and cell wall without hemicellulose (ADF) and aerobic stability was measured by standard method. Organic matter digestibility (OMD), Organic matter digestibility of Dry matter (DOMD) and metabolizable energy (ME) was measured using *in vitro* gas production method. The results showed that addition of urea not only decreased cell wall components, but also the level crude protein (P<0.05), that overall improved the quality of silage fermentation in the sample. Also, urea and ammonia nitrogen were also decreased (P<0/05) and aerobic stability increased. Adding the bacteria increased of aerobic stability and crude protein, and reduced of dry matter, cell wall and pH (P<0/001) . Results of gas production showed that adding of bacteria or non-edible palm had no any effect on potential of gas production, (b), DOMD, ME and OMD But adding non-edible palm increased crude fat, aerobic stability, and dry matter (P<0/001). and crude protein, nitrogen, ammonia, pH and decreased cell . generally it concluded that can improve its nutritive value silage of banana by product with adding of 2.5% urea, 10% non-adible palm and  $1 \times 10^5$  (CFU) of bacteria.

**Keywords:** Banana by product, *Lactobacillus plantarum*, Urea, non-edible palm, Nutritive value and silage



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**Effect of additives (bacteria, urea and waste  
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