ENSILING STEMS OF BANANA WITH SILAGE ADDITIVE AND WITH OR WITHOUT BIOCHAR

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ABSTRACT

An experiment was carried out at laboratory to evaluate the effect of silage additives and biochar on nutritive value and fermentation status of banana pseudo stem. Banana stems were colledted at Long Xuyen city, An Giang province in Vietnam, and were chopped into small pieces (1-2 cm in length) and ensiled in plastic bags (2 kg of capacity) with silage aditives (sugar cane molasses 15%, yeast 3%, urea 3%, DAP 1% (all on DM basis)) with and without biochar 1%. Each silage additive was repeated three replicates, ensiling periods 0, 7, 14, 21 and 28 days. Samples were taken to analyzing for pH, DM, NH3-N, CP, CF and OM. Physical characteristics (smell, colour and mould growth) were also observed and recorded. For visual observation after 7 days, the colour of treatments without additives or containing molasses, yeast and without biochar had changed from yellow to light brown and darker at treatment added biochar. These treatments had a pleasant odour of lactic acid and were low of the pH (<5). Visible mould growth was observed at treatment containing DAP. The addition of urea had a dark brown in colour with unpleasant odour, were low of DM but high of pH (>5). The concentration of CP was had increased with the time of ensiling. The ammonia-N concentration was low at date 0 and lighly increased from 7 days to 28 days. The pH values for all treatments were around 6.5 at day 0 and then quickly fell below 4 at day 28. Nutritive value and fermentation status of banana stem with or without biochar were similar. Ensiling banana stem without or with silage additive such as molasses, yeast and ensiling period of between 14-21 days were appropriate proceduces as analysed by pH, CP and visual observation.

Keywords: *Ammonia-N, banana stem, biochar, ensiling, silage additive*