Effect of different particle lengths on the bacterial population, fermentation profiles and nutritive value of whole maize plant silage

ABSTRACT

The effect of particle length (2, 4 and 6 cm) on the quality of whole maize plant silage was evaluated by determining the bacterial densities, fermentation characteristics, proximate composition and in situ degradation rates over a 5-week period of ensiling. Higher populations of TVB and LAB were detected in maize silage chopped to 2cm particle length compared with 4 or 6cm. length. Lactic acid levels were higher, and those of butyric acid lower, in the 2cm particle length maize silage. Percentages of DM, OM and CP were higher in the 2 cm length treatment as were the rates of degradation of DM in in situ rumen incubation. levels of NDF and ADF were lower in the 2cm chop silage.

Keyword: Fermentation characteristics; In situ technique; LAB; Lactic acid; VFA