

The Effect of LAB Inoculants on The Chemical and Microbial Composition in Fermentation of TMR Silage

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ABSTRACT

The effect of applying lactic acid bacteria (LAB) at ensiling on the nutrition and microbial composition in fermentation total mixed ration (TMR) silage was studied under laboratory conditions. The LAB inoculants consisted of *Lactobacillus plantarum* (P1) commercial and two others *Lactobacillus* that isolated from local corn leaf (P2 and P3) in experiments with TMR (11% CP and 68% TDN). The inoculants were applied each at about 10^6 cfu/g. After treatment, the TMR were ensiled in 1 lt anaerobic jars. Six jars per treatment were sampled on days 21. At the end of the experiment, the silages were subjected to chemical and microbiological parameters, to determine the nutritive value and contaminant microbes compare with no LAB inoculation. In TMR silages, the LAB inoculants did not affect the nutritive value (dry matter, organic matter, crude protein, extract ether, and crude fiber) however its increase LAB population and depress the contaminant microbes (aerob bacteria, yeast, and clostridia). Inoculants P3 from corn leaf seem to have the most potential in protecting TMR from undesirable microbes.

Key Words: LAB, Chemical and Microbial Composition, TMR, Silage