

Effect of *Lactobacillus* spp. inoculation on the silage quality of rice (*Oryza sativa* L.) grain ⁽¹⁾

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Abstract

In order to improve the problem of sale public stock rice grains as feeds source which had been stored for a long time and the quality of grains became bad. The grains of Taichung Sen 17 (TCS17) were ensiled for 30 and 60 days used to investigate the influence of lactic acid bacteria (*Lactobacillus* spp.) inoculated for rice grain ensiling to provide information for ruminant farmers. The nutrition contents analysis of rice grain silage were determined 30 and 60 days after ensiling, respectively. Analysis included crude protein (CP), water soluble carbohydrate (WSC), neutral detergent fiber (NDF), acid detergent fiber (ADF), starch and phosphorous, potassium and magnesium of mineral content. The pH value and the volatile fatty acid i.e. lactic acid, acetic acid and butyric acid were determined. The results showed that the pH 3.8 of inoculated with *Lactobacillus* spp. was lower than pH 4.4 of control with water (CKW) treatment. The lactic acid reached to 1.1% and inhibited the butyric acid to produce when *Lactobacillus* spp. was inoculate to grain before ensiling. The pH value and Flieg's scores of rice grain silage were about 3.80 and 80 points 30 days after ensiling, respectively. The Flieg's scores of grain silage inoculated with line ST15 of *Lactobacillus* spp. was 89 points higher than that of CKW treatment with 23 points. Results of ensiling for 60 days of all treatments were the same as those of ensiling for 30 days. The results suggested that inoculation with *Lactobacillus* spp. on ensiling could effectively enhance the quality of rice grains silage .

Key words: Rice grain silage, *Lactobacillus* spp., Flieg's scores.

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