

BIOLOGICAL PRESERVATIVES IN SILOMAIZE ENSILAGE

J. P. SZÚCSNE. – J. K. ANTALICZNE – Z. AVASI

University of Szeged, Faculty of Agriculture, Hódmezovasarhely
H-6801 Hódmezovasarhely Andrássy str 15., HUNGARY
E-mail: szucsne@mgk.u-szeged.hu

The object of the trial was to study the effect of 2 different biological silage inoculants on the dynamic of fermentation, nutritive value, and aerobic stability of 2 variety of whole plant maize silage.

The applied treatments:

1. Untreated control
2. Inoculant A with *Lactobacillus plantarum* strain PA-28 and
Lactobacillus plantarum strain K270
3. Inoculant B with *Lactobacillus plantarum* strain CH 401
Enterococcus faecium strain CH 272

Two variety of silo maize, namely the Kama and Maxima were harvested at the same time with 30 cm cut above the soil (30 cm stubble) for better concentration of nutrients of plants. The maturity of seeds were hard cheddar stage, but the Kama has more leaf (as a leafy variety of maize). Chop length was 12-25mm, storage was in 120 litre of capacity model silos in 4 replicates for 49 days in a room adjusted to constant 20-22°C. Aerobic stability of opened silages were analysed by Honig 1990.

- There was some differences in chemical composition of row materials: Maxima contained 4% more DM (34,6%) a bit more WSC and less fibre than Kama on fresh forage basis, but there was no considerable differences in fermentable carbohydrates on DM basis of silo maize.
That means, both variety of maize gave the same excellent row materials for fermentation.
- There was no considerable effect of biological preservatives for nutritive value (NE energy content, MP content) of silages.
- The treated silages contained more lactic acid, and the lactic-acetic acid ratio was better in treated silages, which predicts better palatability and consumption by ruminant animals. Butyric acid content was no considerable.
- The protein degradation was higher in Kama (showed higher NH₃ content).
- There was no significant difference in fermentation products of silages.
- All silages were stable until 48-60 hours exposure to air on 20°C ambient temperature.
- Inoculant B protected surely the silages against the aerobic deterioration for longer time. The effect for better aerobic stability was considerable on Maxima silomaize-silage.

Conclusion: The fermentation of silomaize can improve by the tested inoculants. The inoculant B increased better the aerobic stability. Variety of silomaize can be considerably role.