

The effect of preparation „BIOPOLYM“ on fermentation processes of red clover silages

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Objectives

The aim of this work was evaluate the effect of Biopolym and Biostabil preparation for qualitative parameters of silage from red clover.

Material and Methods

- Biopolym (B) preparation – brown seaweed extract *Ascophyllum nodosum*
- Biostabil (BIOS) – bacterial preparation (homo and heterofermentative lactic acid bacteria)
- qualitative parameters of silage from wilted red clover
- laboratory conditions – glass bottles (vol. 3.7 l)
- B was 0.02 l Biopolym + 2 l water. m⁻³ (1 : 100)
- BIOS preparation was dosed 4 g.t⁻¹
- growth stage was late flower in both cuts
- dry matter (DM) at the first cut was 41 % (25-06-2010)
- in the second cut content of DM was 45 % (07-09-2010)
- forage was cut to the length of 40 – 80 mm
- samples were evaluated after 24 weeks fermentation

Tab. 1. The distribution of silage samples

First cut		Second cut	
Silage treatment	Group name	Silage treatment	Group name
Control group (without any preservative)	C I	Control group (without any preservative)	C II
BIOS	BIOS I	BIOS	BIOS II
BIOS + B 1 : 100	BIOS + B 100 I	BIOS + B 1 : 10	BIOS + B 10 II
B 1 : 50	B 50 I	B 1 : 10	B 10 II
B 1 : 100	B 100 I	B 1 : 100	B 100 II
B 1 : 200	B 200 I	B 1 : 200	B 200 II
B 1 : 500	B 500 I	B 1 : 500	B 500 II

- samples were analysed for contents of DM at 103 °C
- the lactic acid was analysed using an isotachoforetic analyser IONOSEP 2001
- the ammonia according to Conway's method

Conclusion

In the first cut the group C I and B 100 I positively affected the quality of silage. The lactic acid content increased with decreasing of DM content.

In the second cut the best results were achieved in the group BIOS II. The lactic acid content increased with increasing of DM content.

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Results

First cut (I)

Fig. 1. The development of the pH values

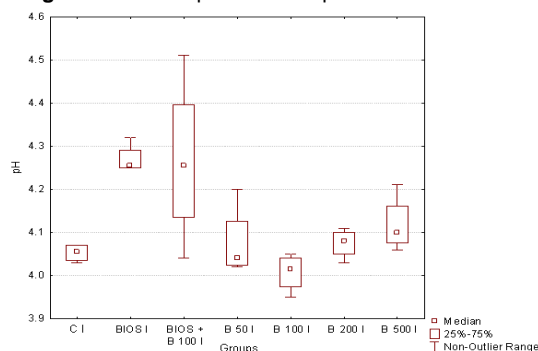
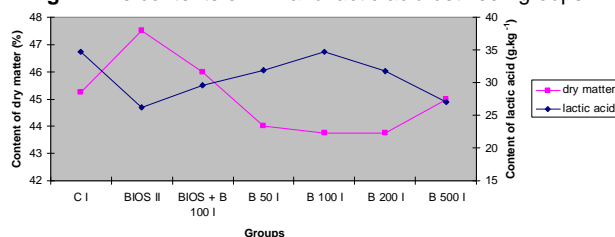


Fig. 2. The contents of DM and lactic acid between groups



Second cut (II)

Fig. 3. The changes of pH between groups in the second cut

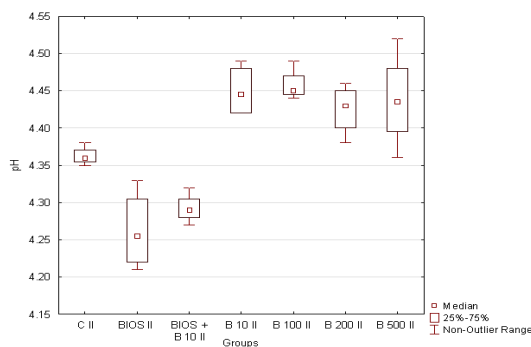


Fig. 4. The development of DM and lactic acid

