

EFFECT OF INOCULATED GRASS SILAGE ON RUMEN FERMENTATION AND METHANE EMISSION IN DAIRY COWS

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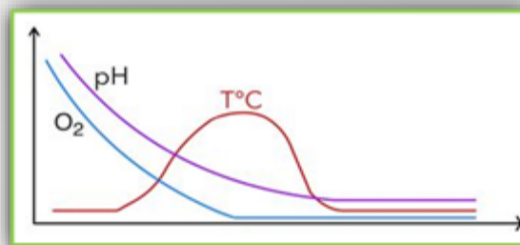


The project has been financed by the European Union's Horizon 2020 research and innovation program under grant agreement no. 696356 for research conducted within the framework of the ERA-GAS/ERA-NET SUSAN/ICT-AGRI CCCfarming project.



New ensiling technology

- ⇒ Using inoculants based on mixed microbial cultures.
- ⇒ Stability of silage fermentation.
- ⇒ Reduce nutrients losses in silage.



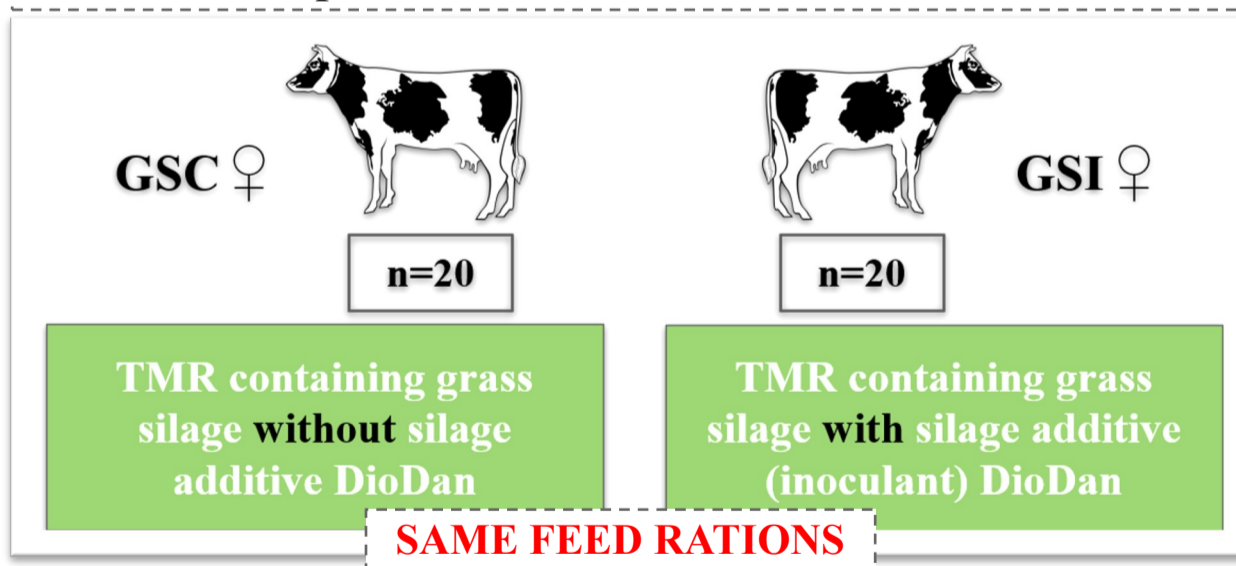
AIM

The study aimed to analyze the effect of feeding dairy cows with a diet containing **grass silage** preserved with a **commercial inoculant based on propionic** (*Propionibacterium acidipropionici*, *Propionibacterium thoeni*) and **lactate acids bacteria** (*Lactobacillus buchnerii*, *Lactobacillus plantarum*). Moreover methane emission was determined.

HYPOTHESIS

The research hypothesis assumed that the inoculant supplemented with grass silage will **improve the fermentation process and decrease methane emission after implementation into the diet the ensiled grass material.**

The experiment was conducted for 2 months



- ⇒ Analysis of basic nutrients and pH value of silage
- ⇒ Measuring milk yield and its composition
- ⇒ Analysis of methane emission

RESULTS

The inoculant **increased the nutritional value** (mainly total protein content) and **aerobic stability** of the ensiled material.

The grass silage with inoculant **increased daily milk production** (by 5%), **improved milk composition** (higher percentage of protein, lactose, and urea), and **decreased methane emission** (by 7%).

CONCLUSION

Commercial inoculant based on **propionic** and **lactate acids bacteria** improve the **nutritional value of grass silage, increase milk production and its composition** and decrease **mitigate methane emission**.

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