On-line silage storage survey with wireless sensor technologies

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- Objective
- Technology
- Losses and silage quality
- Silage storage
- Storage survey
- From data to information
- On-line accessibility of the information
Objective

- Development of:
  - Wireless Sensor Unit
  - Methods for monitoring
- Quality of milk
- Documentation and traceability
Technology

Losses and silage quality

- Biochemistry

GOOD!

\[ \text{Carbohydrate} \rightarrow \text{lactic acid} + 3.1\% \text{ energy loss} \]
Losses and silage quality

- Biochemistry

BAD!

\[ \text{Carbohydrate} \rightarrow \text{butyric acid} + \text{carbon dioxide} + \text{hydrogen} + 22.1\% \text{ energy loss} \]
Silage storage
Silage storage

Temperatur (°C)

Depth from top of stack [cm]

Storage survey

- 1st trail
Storage survey

- 2nd trial

From data to information

- Definition of information
  - When data is used in a decision process
Storage survey

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Storage survey

Computer
Mass and quality

On-line quality measurement
Server

Computer
Mass and quality

On-line quality measurement
Server

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Thank you

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