



Management tools coupled with a database to support dairy farmers in decision making

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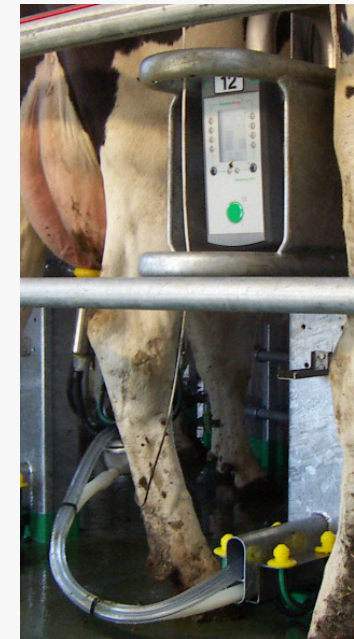




Introduction



- Enhancements in electronic sensor techniques
 - ⇒ Automatical recording of individual cow performances
 - ⇒ Several traits
 - ⇒ Huge amount of data
- Limited specificity of individual parameters
 - ⇒ Integration of the data
 - ⇒ Need for research in use in herd management





Introduction



- Automatic disease detection
- Early warning system
- Decision support



Introduction



Preconditions

- Combination of different data sources
 - Electronic sensors
 - Herd management software
 - Milk control
 - Records of administered medicines
 - Notes
- System for data recording and management
- At least weekly update of data



“KuhDaM” in Kiel



- Central database
- Continuous, long-term data storing
- Individual identification of animals and farms



“KuhDaM” in Kiel



Health



Individual data



Milk



Feeding



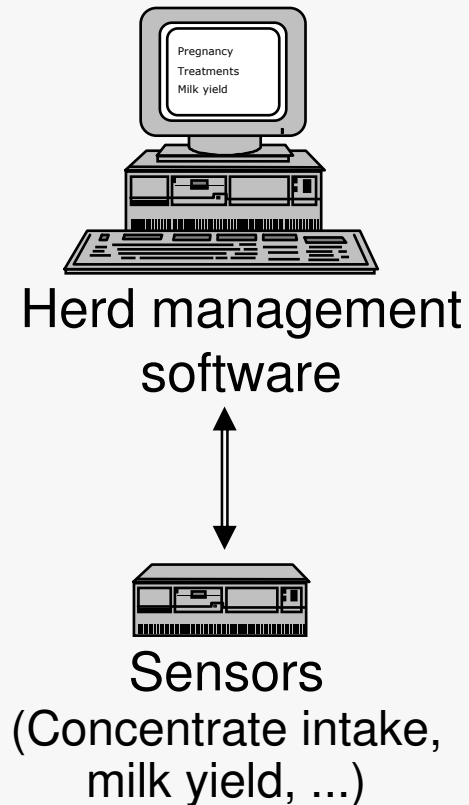
Fertility



Data transfer

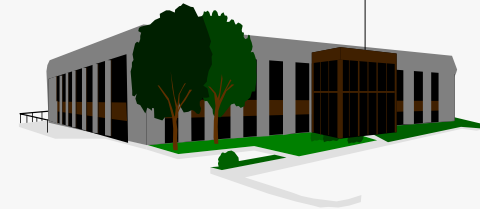


Farms



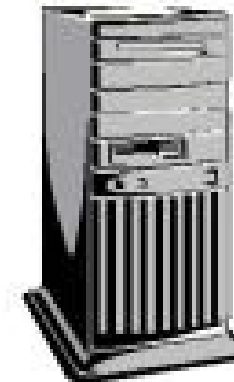
WWW
(feed analyses, ...)

Milk lab



Online

KuhDaM



Online

Online

Online

Online



Management tools



- Check lists



Management tools



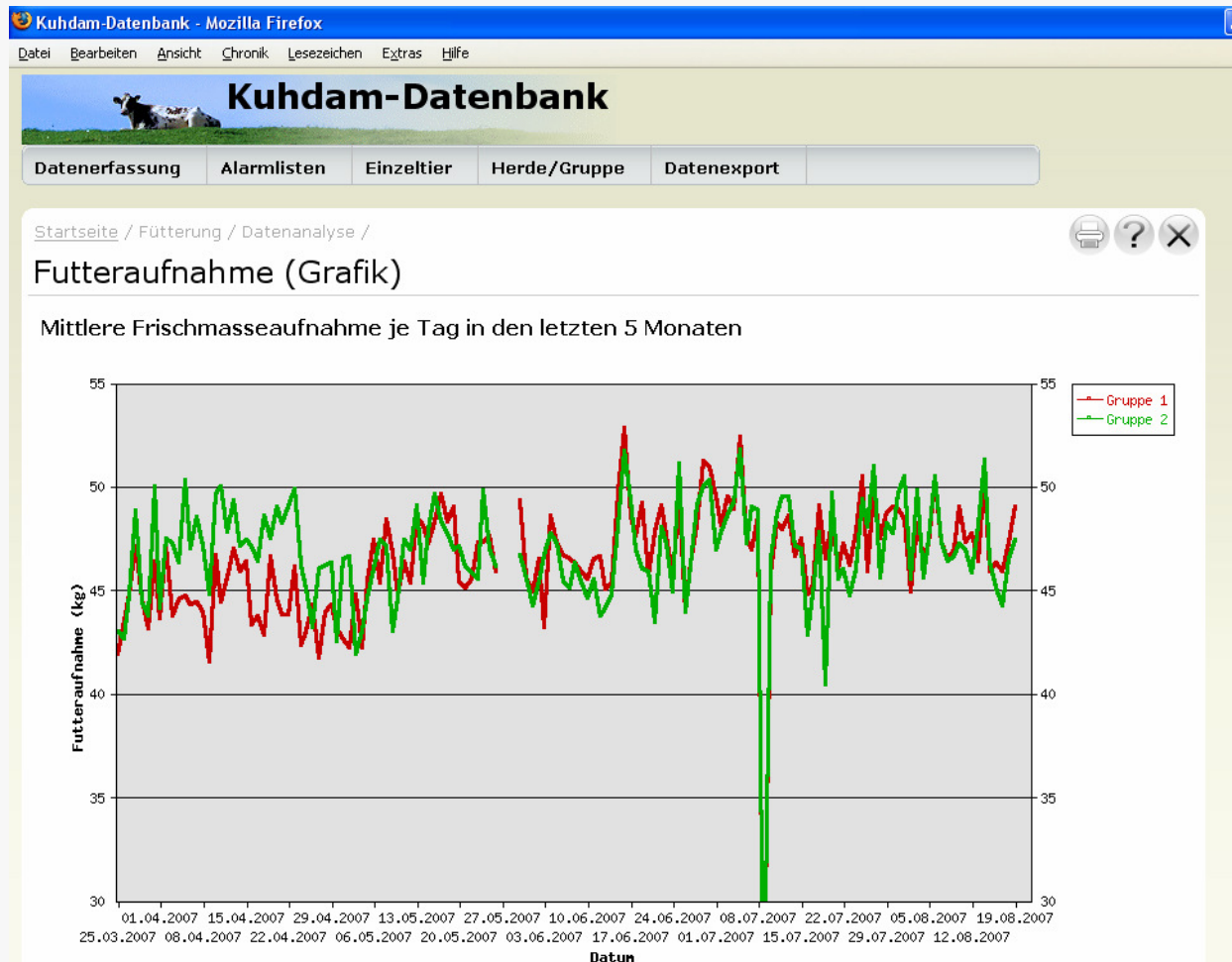
- Check lists
- Charts showing trends in specific traits



Management tools



Chart showing mean TMR intake per day



- Mean body weight per day
- Mean milk yield
- ...



Management tools



- Check lists
- Charts with trends in specific traits
- Monitoring of individual cows



Management tools



Medications during lactation





Management tools



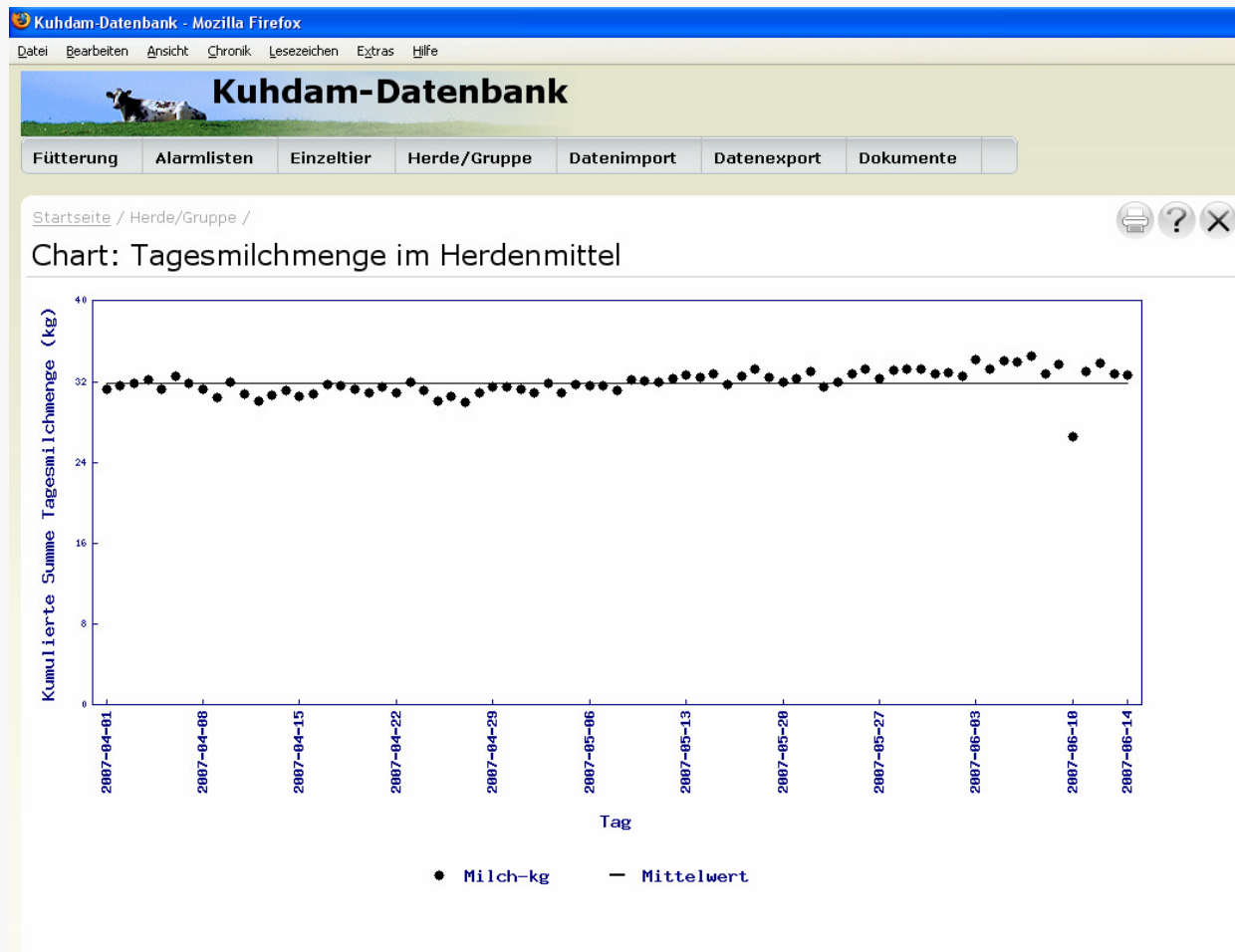
- Check lists
- Charts with trends in specific traits
- Monitoring of individual cows
(e.g. medications during lactation)
- Cumulative sum Control Charts



Management tools

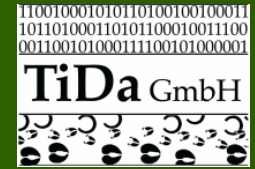


Chart 'Mean milk yield of the herd'

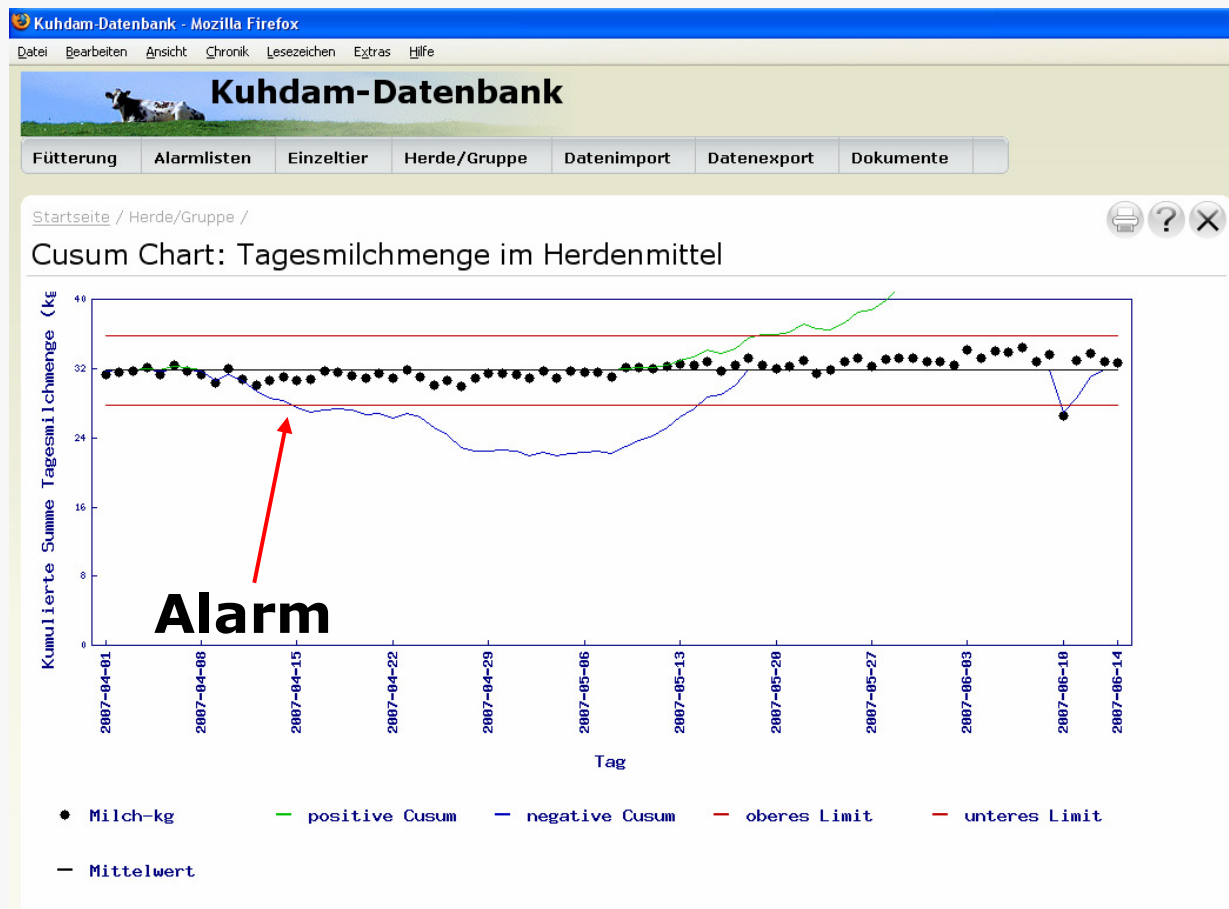




Management tools



Cusum Control Chart 'Mean milk yield of the herd'



- Detecting small shifts in the process mean
- Process out of statistical control?
- Estrous detection ratio
- ...



Conclusion



- Use in 2 research farms in Germany
- Automatical transmission of data
- Data entry by the farm staff
- Combination of different data sources
- Day-to-day control
- Ease of handling and easy data access



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