



Validation of a System for Monitoring Rumination in Dairy Cows

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Background: New technology can automate recording of rumination, but no work to date has assessed the reliability of these measures.

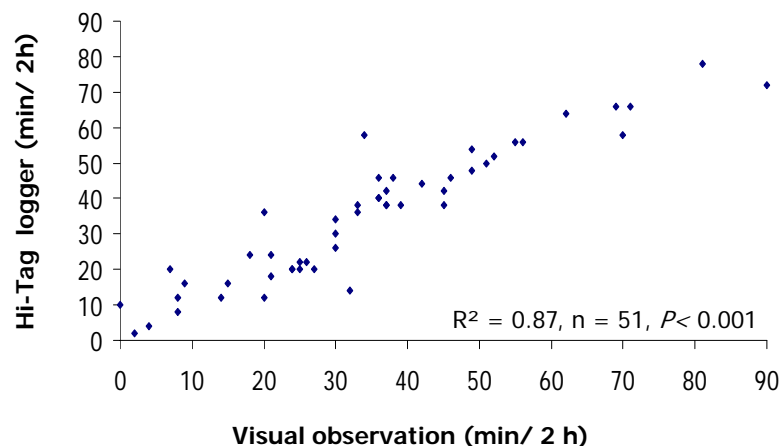
Aim: To compare automated recordings of rumination from the Hi-Tag rumination collar with live observations by trained observers.

Methods: Rumination was monitored using both live visual observations and the Hi-Tag rumination collars (see photo). We monitored 27 cows, collecting data during 51 2-h recording sessions. The following comparisons using liner regression were made:

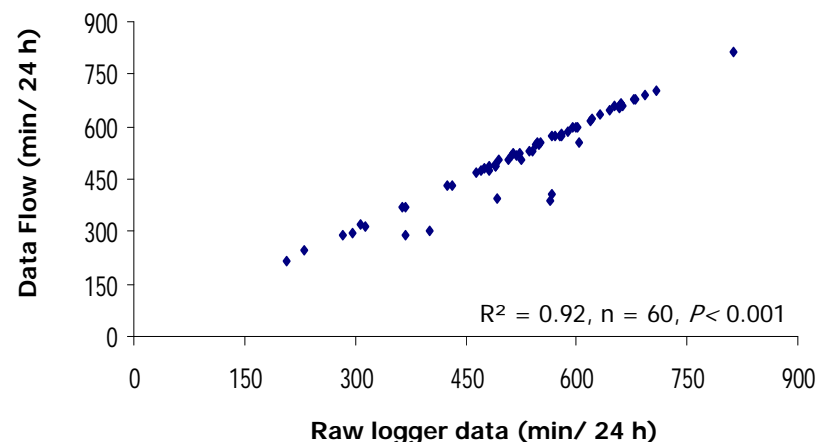
- 1) Total rumination time using the loggers compared with estimates from the live observations.
- 2) Estimates from the Data Flow software, which converts the raw data from the loggers into 24 h estimates of rumination time, compared with daily rumination times compiled from the loggers.



How does the logger compare to visual observation?



How does the software compare to the raw data?



- Estimates of rumination time from the Hi-Tag logger show excellent agreement with those from direct visual observations.
- 24-h estimates of rumination time from the Data Flow software show excellent agreement with data compiled from the rumination loggers.
- This technology provides a viable alternative to direct visual observations for research requiring estimates of rumination time.