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Objective

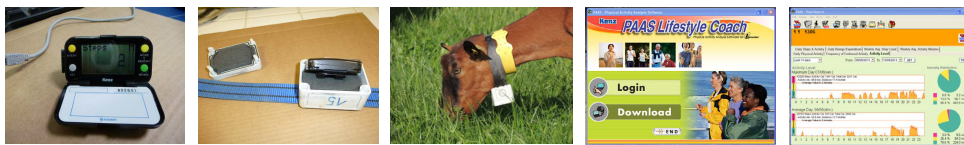
- To determine the accuracy of the **Lifecorder Plus** (Suzuken, Nagoya, Japan) for recording grazing time and daily pattern of **grazing activities** in **dairy goats**.



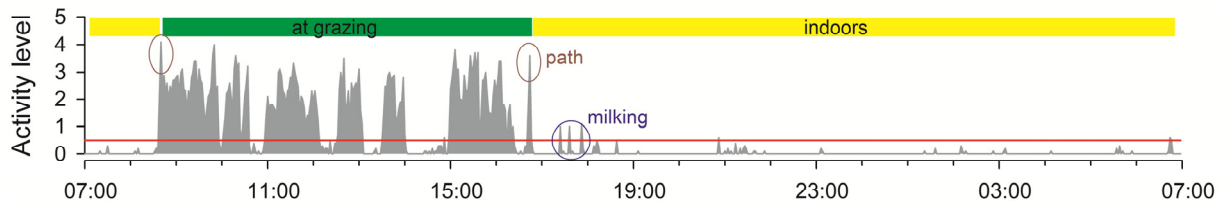
Materials and methods

- **Validation study** : Total of 186 hour × goat visual observations at grazing
 - 69 sequences, from 62 to 242 min each (2015 and 2017)

- **The LC+** :
 - Sensor: uni-axial accelerometer
 - Data recorded: Average activity level each 2-min period (from 0 to 9)

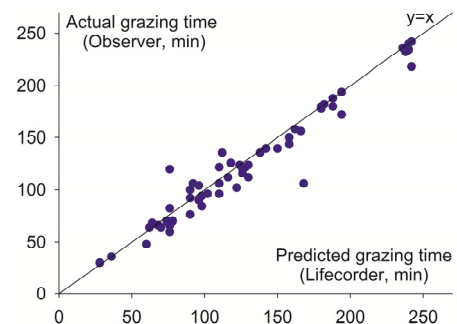


- **Data processing** : Grazing meal definition : Activity > 0.5 during at least 6 min



Results

- **Mean prediction error** (distance against $y=x$ axis):
 - At **hour scale**: **11%**, at sequence scale: **9%**
 - No slope bias, small mean bias (12% of the error)
 - Actual: 50.1 min/h, predicted: 52.0 min/h**
- Overall **sensitivity** (true positive) : **98%**
- Overall **specificity** (true negative) : **74%**
- Overall **accuracy** (concordance) : **96%**



- **High accuracy, sensitivity and specificity.**
 - Device **easy to use, robust**, with a battery life > 1 month.
- The **LC+**: a **good tool** for recording **duration and pattern** of grazing activities in goats.