

EVALUATION OF ORGANIC MATTER DIGESTIBILITY ON INDIVIDUAL FAECES SAMPLES ON BEEF CATTLE IN THE TROPICS

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Objective of the study:

To evaluate OMD as an indicator of individual feed efficiency

Materials and methods:

- ✓ 8 Creole steers, maintained in individual feeding cages during 8 weeks
- ✓ Fed with *Digitaria decumbens* fresh forage, aged from 24 to 55 days
- ✓ Forage offered and refused, and faeces excreted were measured daily and samples collected for analysis of OM content and digestibility (standard + NIRS)
- ✓ NIRS evaluation of OMD on individual daily samples (dung or rectum) were compared to mean weekly standard OMD evaluation

Results:

- ✓ The apparent digestibility varied from 81.3 % at about 4 weeks of age to 61.6 % at about 8 weeks of age, according to the individual and the week.
- ✓ NIRS predictions of OMD on individual samples reflected the variability of the mean apparent digestibility.
- ✓ NIRS predictions made on independent subsamples collected daily are highly correlated.

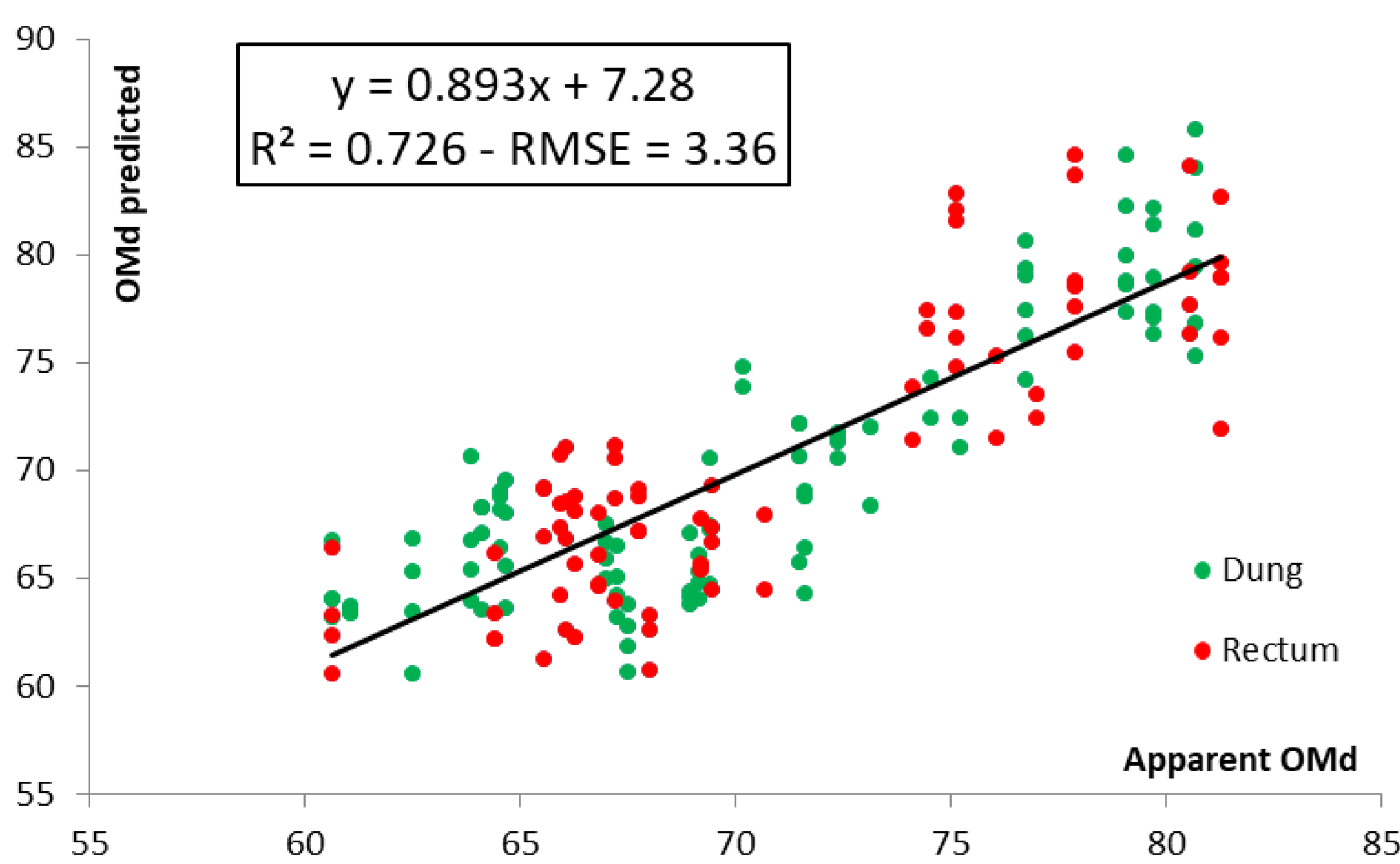


Figure 1 Relationship between apparent OMD and NIRS prediction on individual dung or rectum samples (sample 2)

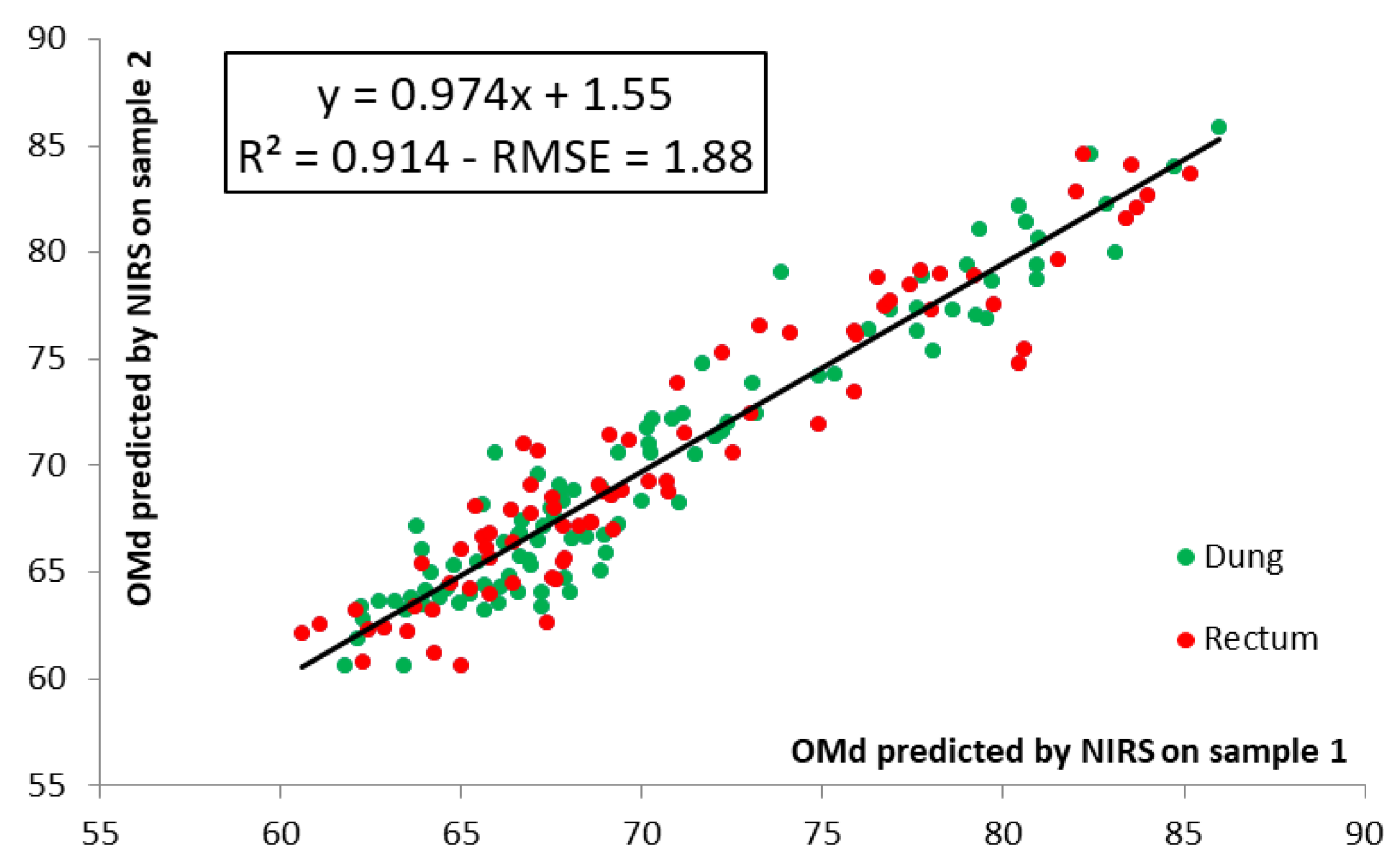


Figure 2 Relationship between OMD predicted by NIRS on samples 1 and 2

- ✓ The correlation of subsequent NIRS predictions made during a week varied from 0.87 to 0.66 according to the time interval between the samples.

Conclusions: This trial confirms that the prediction of organic matter digestibility by NIRS assay on individual dung or rectal samples may be a good indicator of feed efficiency in beef cattle in the tropics. These results may have practical applications in the field, for instance for the evaluation of individual variations. They have to be tested on more experimental and field trials, on different feeding regimes and type of animals, with more individuals.