



Prediction of grass-based diet from indirect traits using milk MIR-based predictors to assess the feeding typology of farms

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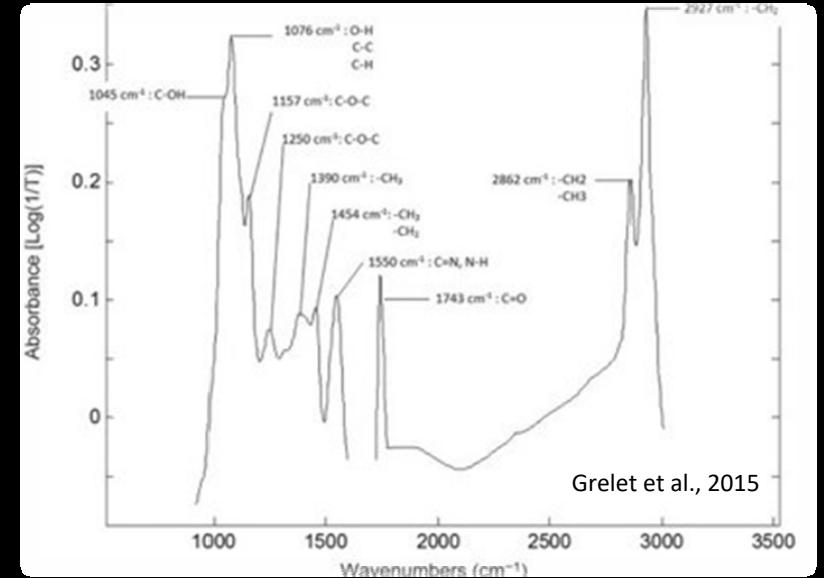
Why grazing ?



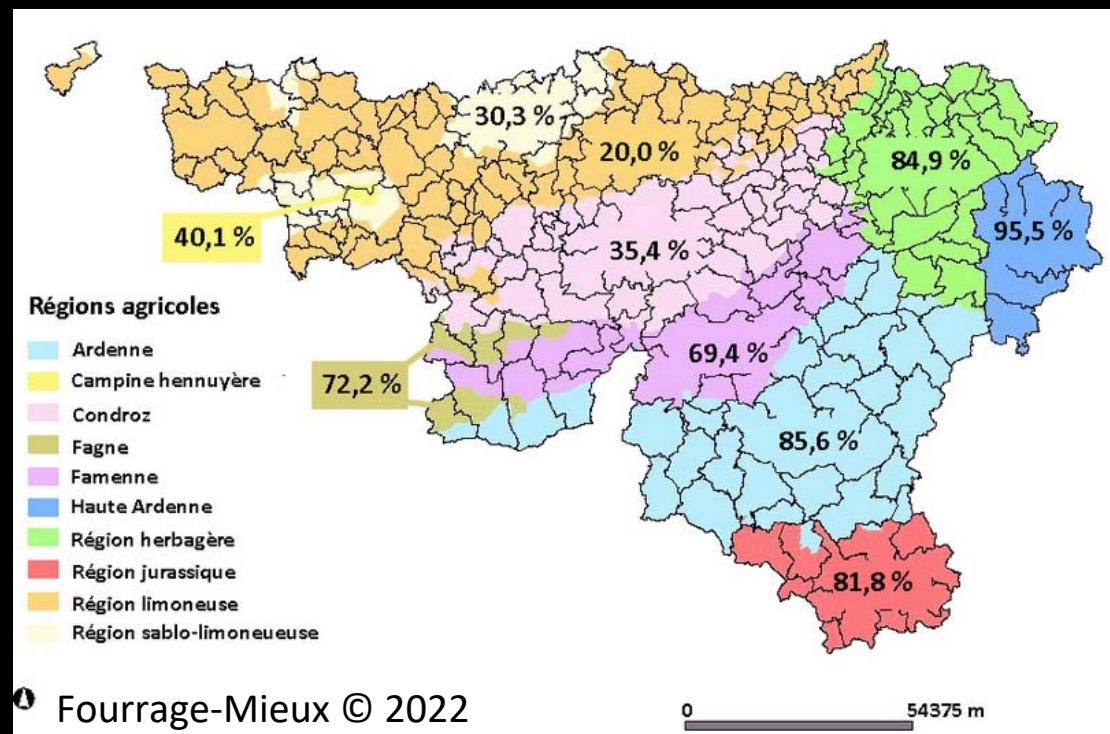
Differentiated milk quality

150 - 180 days on pasture

GPS devices → expensive



Grazing in Wallonia



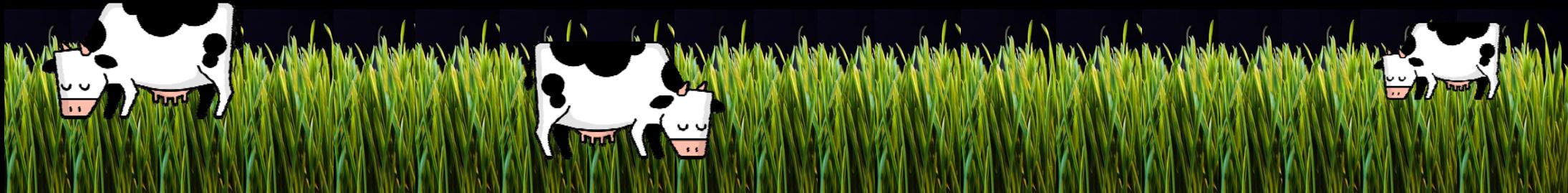
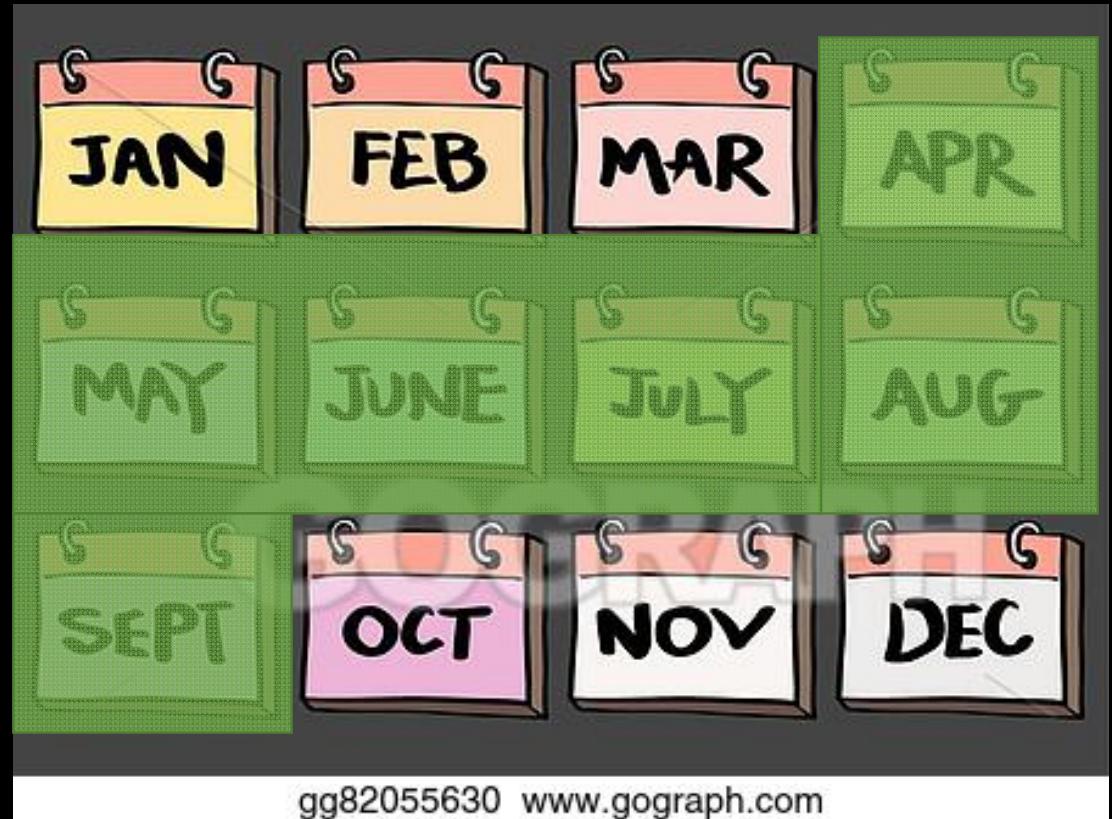
Fourrage-Mieux © 2022



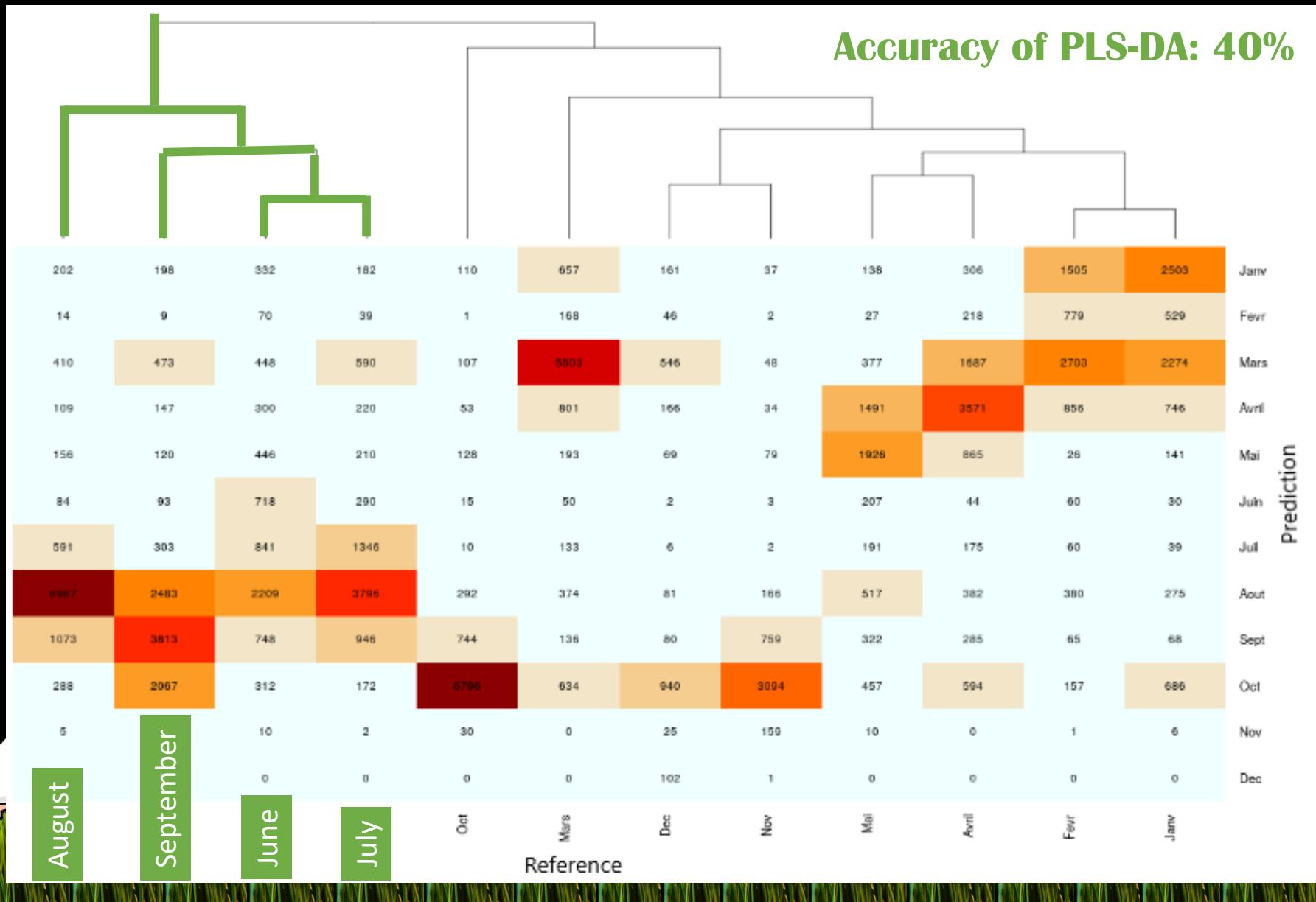
Indirect prediction

Data :

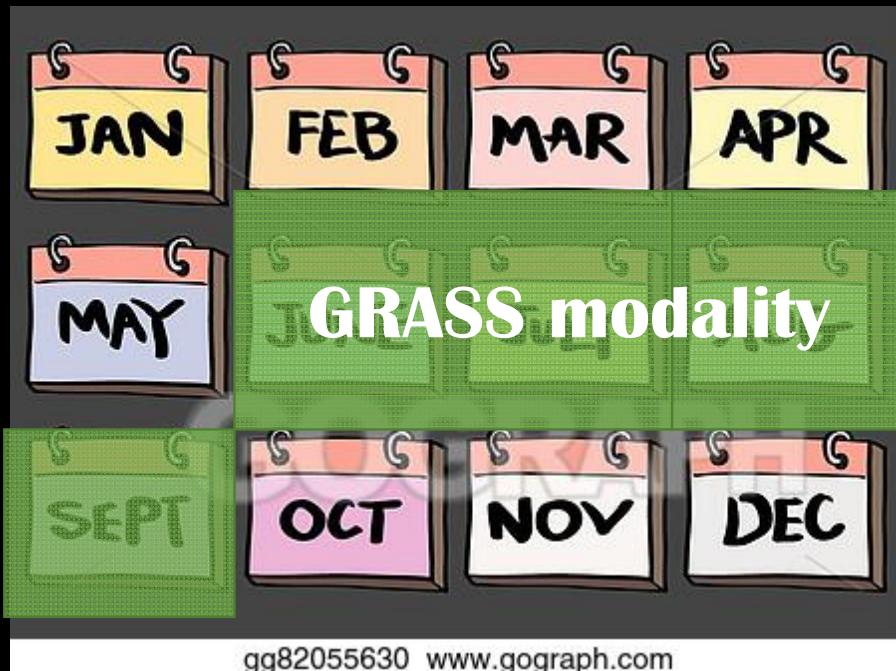
- 2019 - 2020
- Bulk tank milk samples:
 - Frequency : 1 to 4 days
- 38 FT-MIR predicted traits
- Calibration set:
 - 345,223 records
 - 2,287 farms
- Validation set:
 - 85,069 records
 - 581 farms



Test month prediction



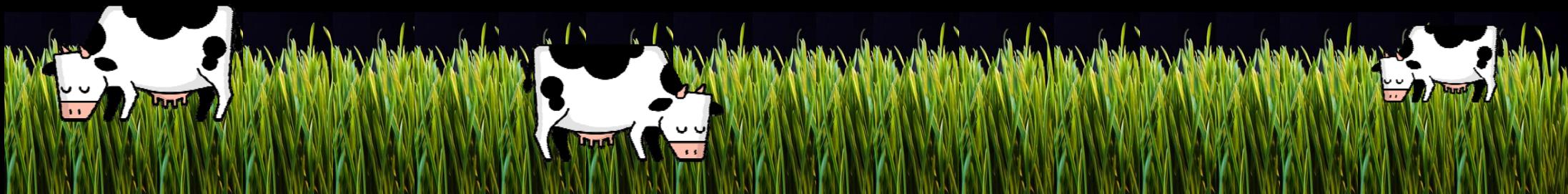
Grass-based prediction



- Calibration accuracy: 88 %
- Validation accuracy: 87%



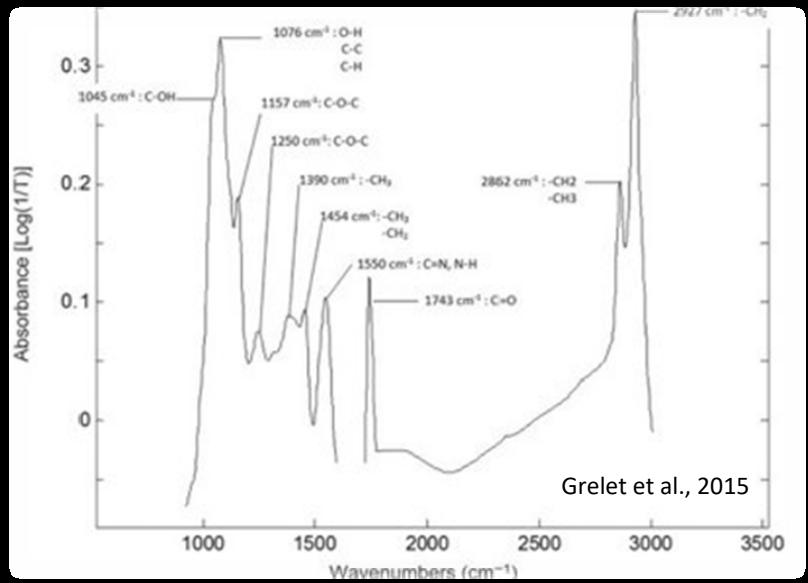
Coppa et al. (2021)
Frizarin et al. (2021)



Grass-based prediction : Why ?

Elgersma et al. (2006):

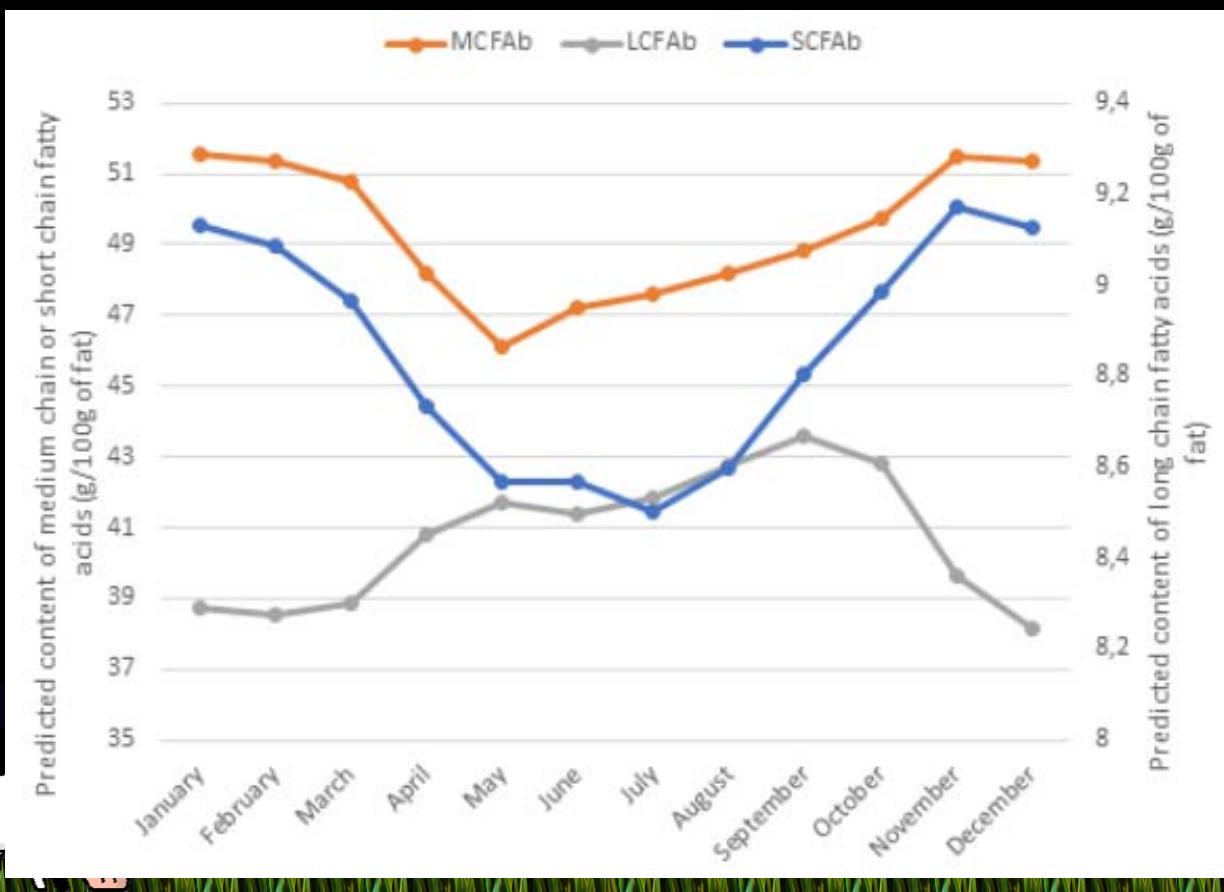
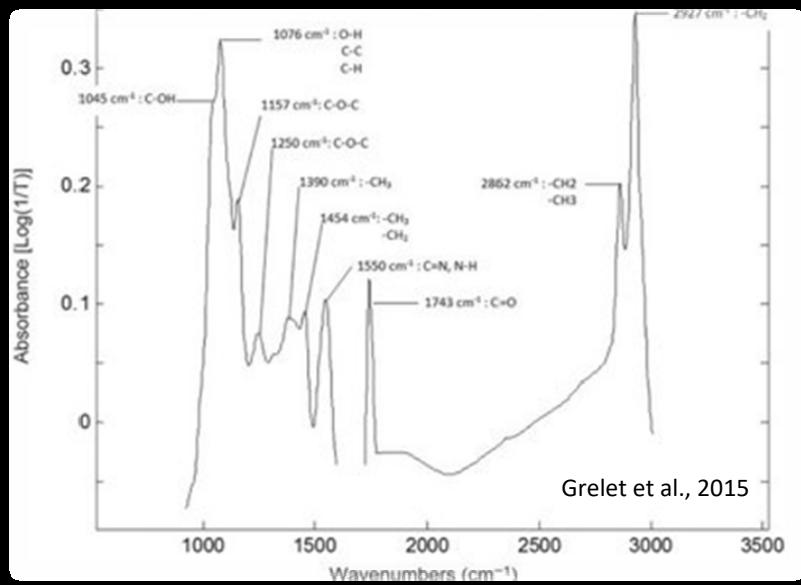
- \uparrow ratio
- \uparrow C18:3
- \uparrow CLA



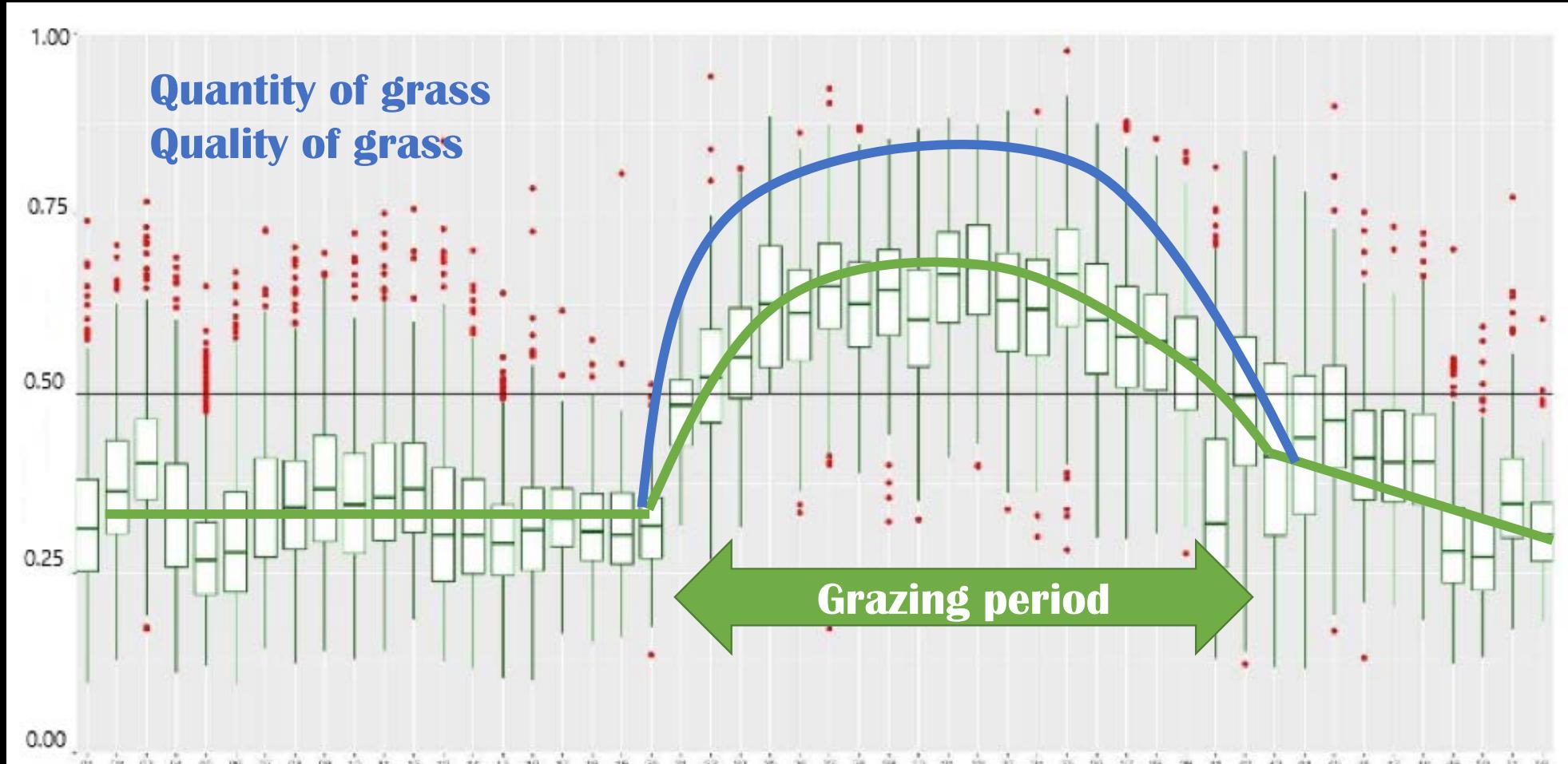
Grass-based prediction : Why ?

Frelich et al. (2012) :

- ↑ Long chain FA
- ↓ Short chain FA
- ↓ Medium chain FA

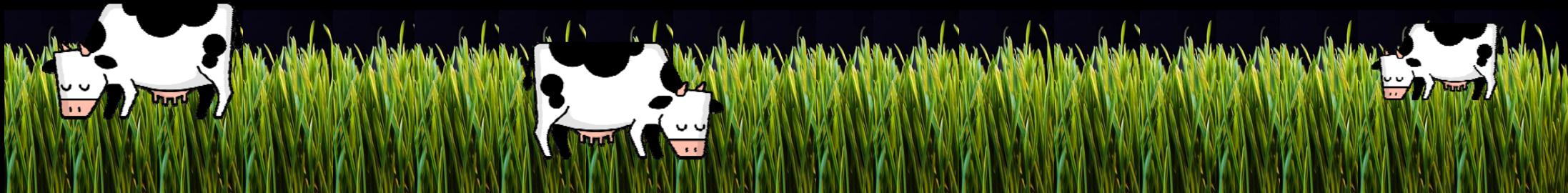


GRASS : Not a binary variable



Conclusion

- Innovative indirect prediction coupled with a clustering
- Possibility to predict the GRASS modality
- Cheap prediction with a good frequency
- Interest:
 - Counting the number of days spent on pasture
 - Detect different feeding management





Thank you

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