



Correlation between BHB and NEFA concentration in early lactation period

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Questions?



- What are energy requirements of dairy cows?
- Does NEB limit milk synthesis in early lactation?
- What is the role of energy balance and metabolism?
- Controlling the energy balance in early lactation?
- NEB in association with broad of spectra different reproductive disorders?
- How to cope with NEB and immune system?



(Re)Actions

- To propose a different lipogenic and/or glucogenic diet
- To select proper biomarkers for early prediction of metabolic disorders



Outline: matrixis

- Blood: sera, plasma
- Milk
- Urine
- Adipose tissue
- Hear
- Feces



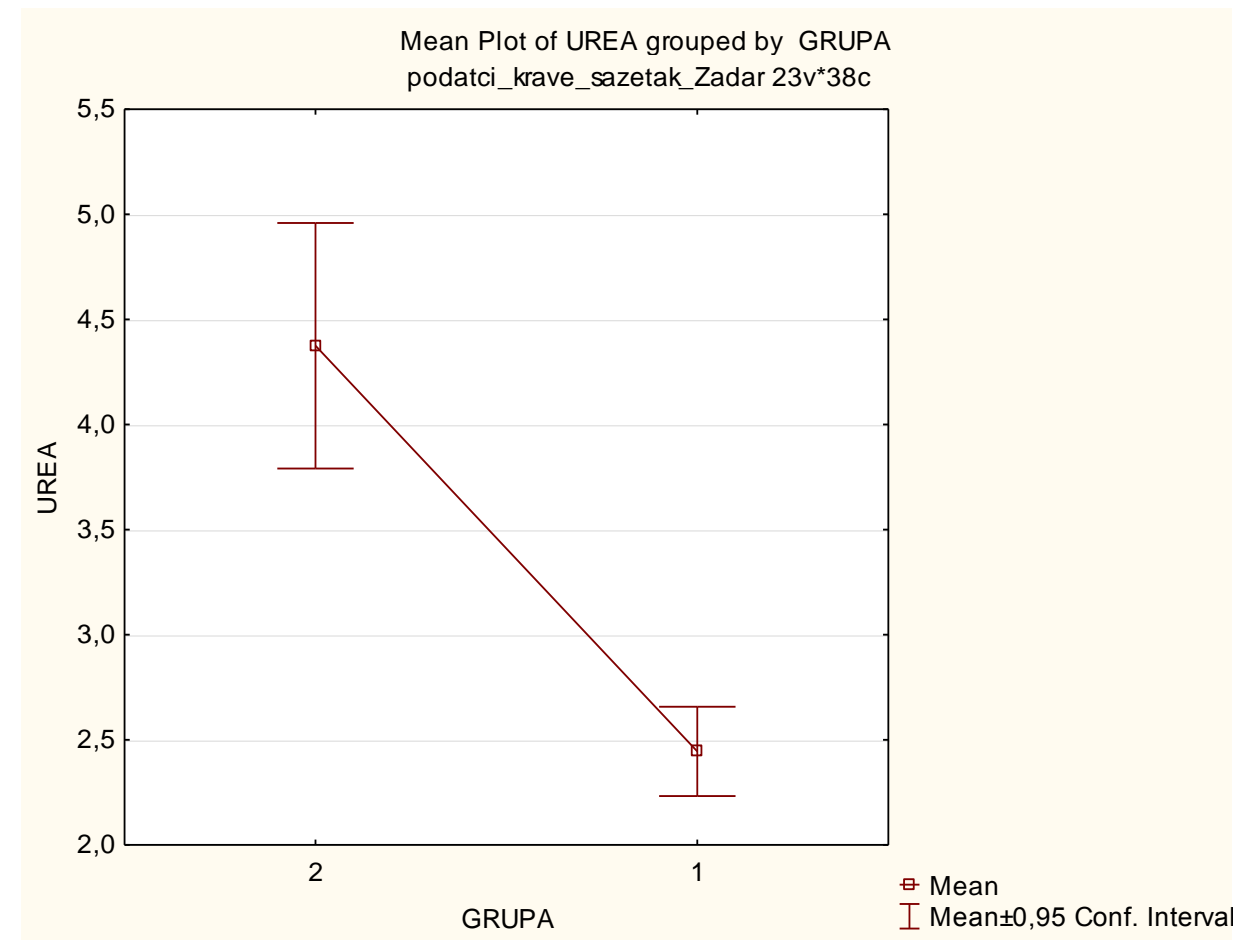
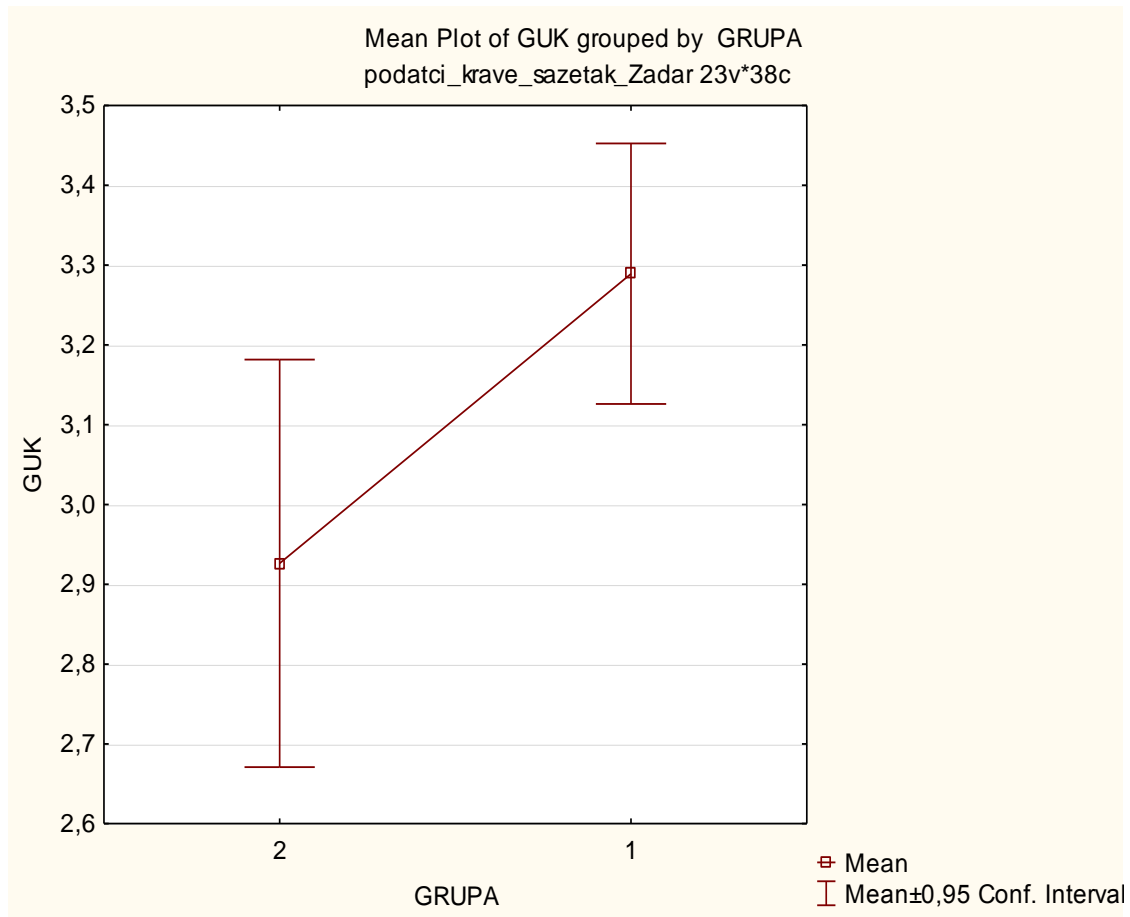
Aim of the study

- Both NEFA and BHB concentrations as markers during transition period to monitor cow-level and herd-level risk for disease
- To analyse the relationship between common used biomarkers for metabolic disorders, NEFA and BHB

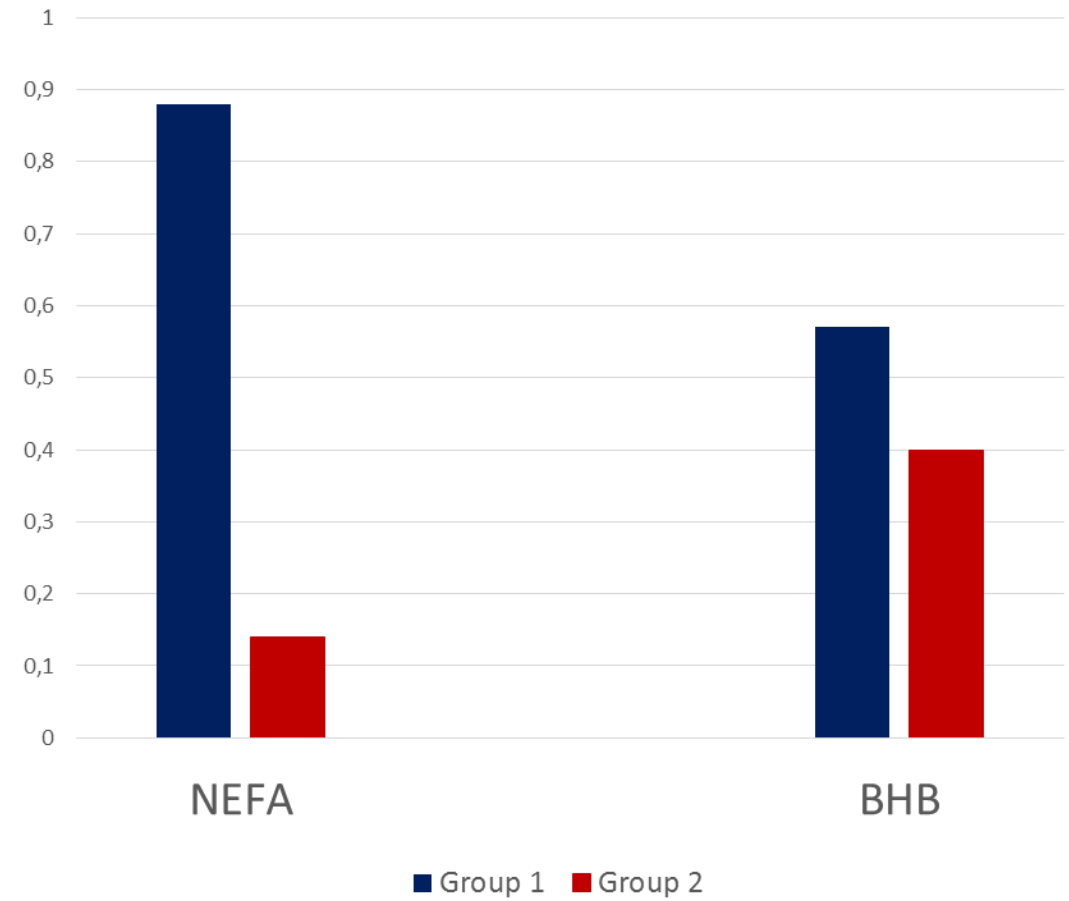
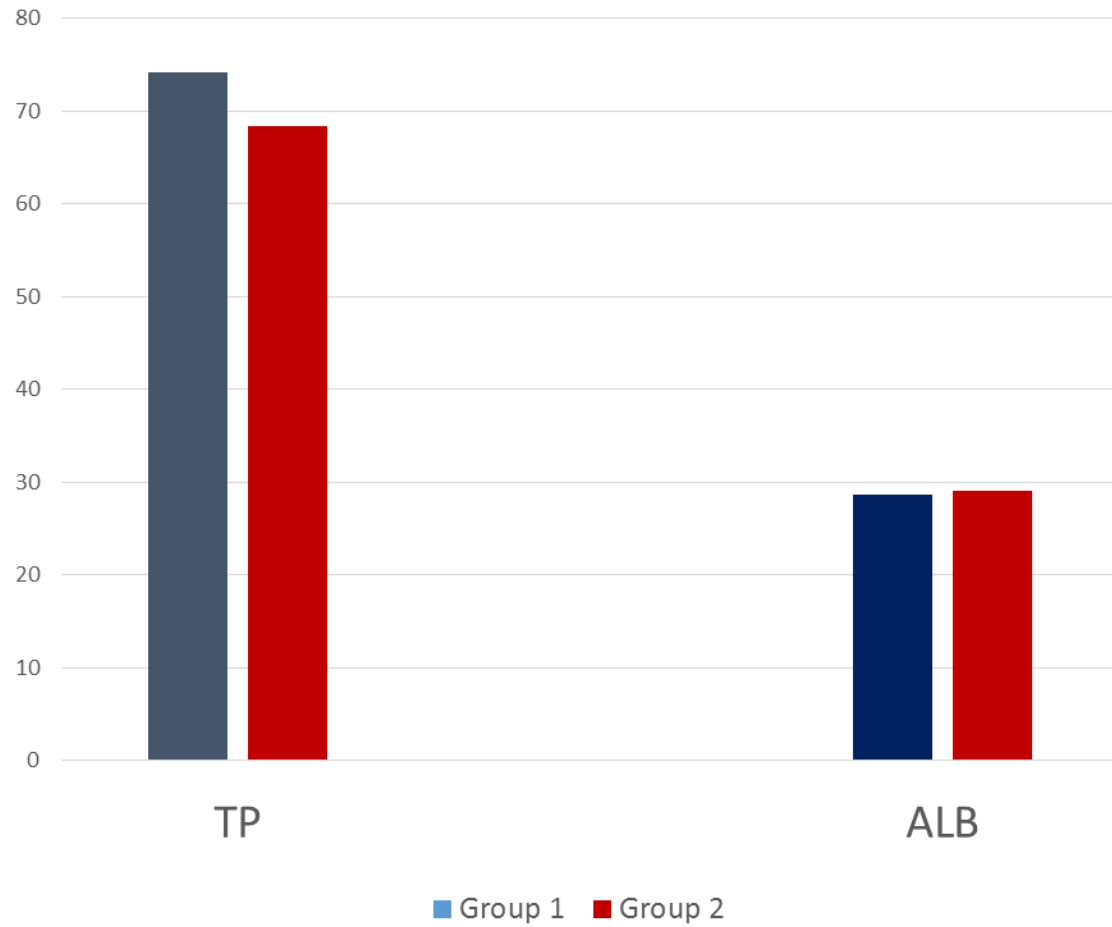
Materials and methods

- Blood concentration data for NEFA, BHB; glucose, urea, total protein, albumine from cows
- Group 1- until 14 days after parturition
- Group 2- after 28 days after parturition

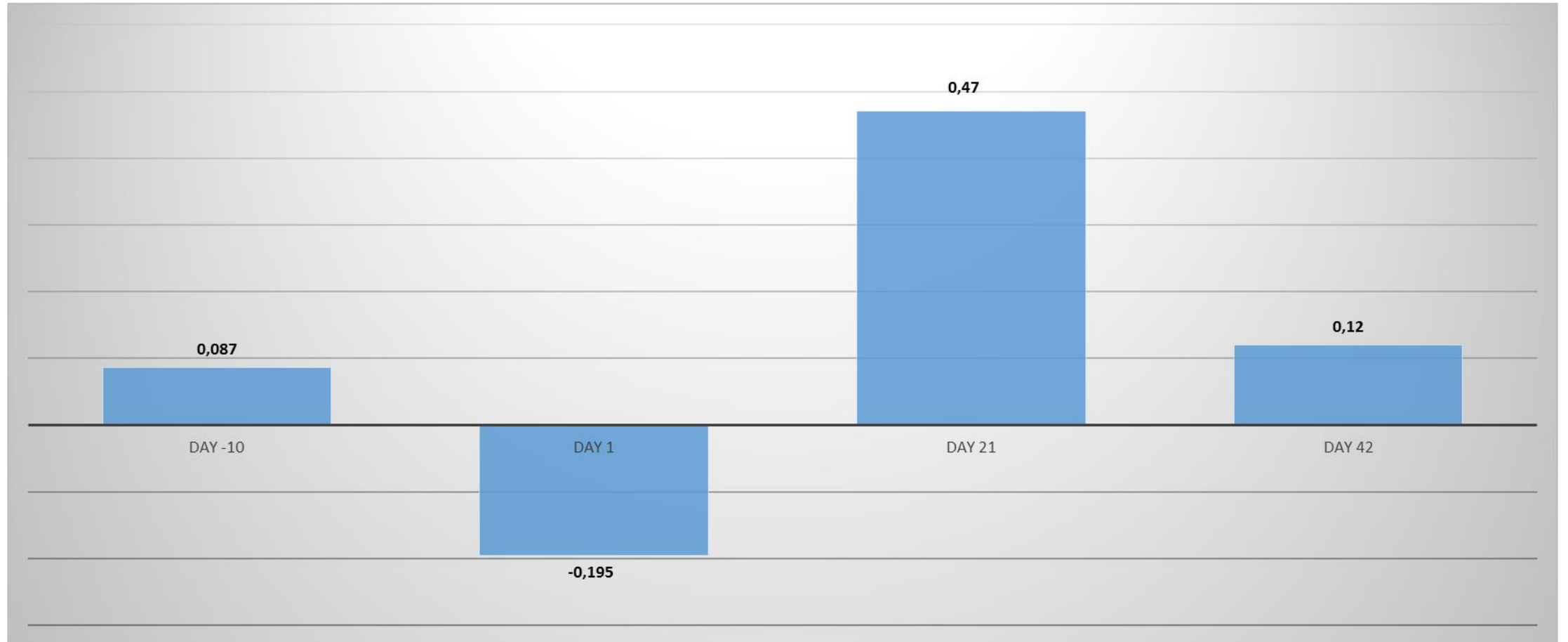
Results



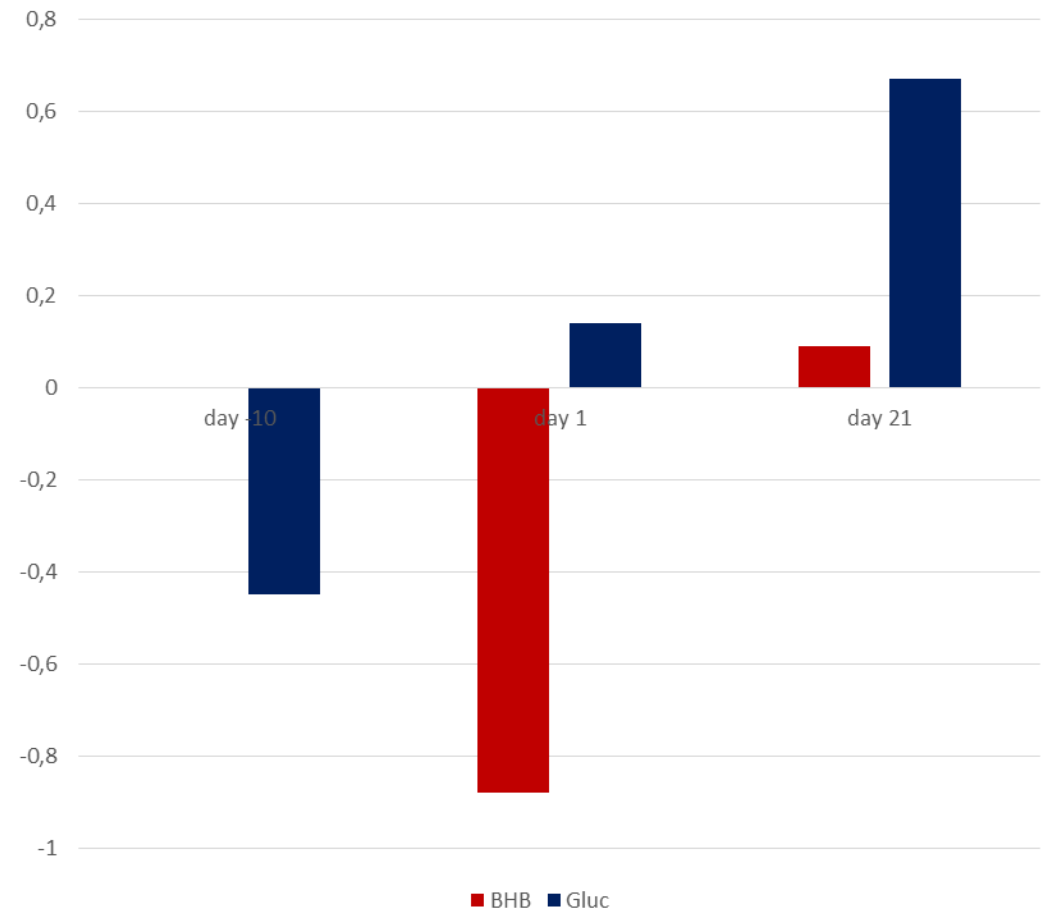
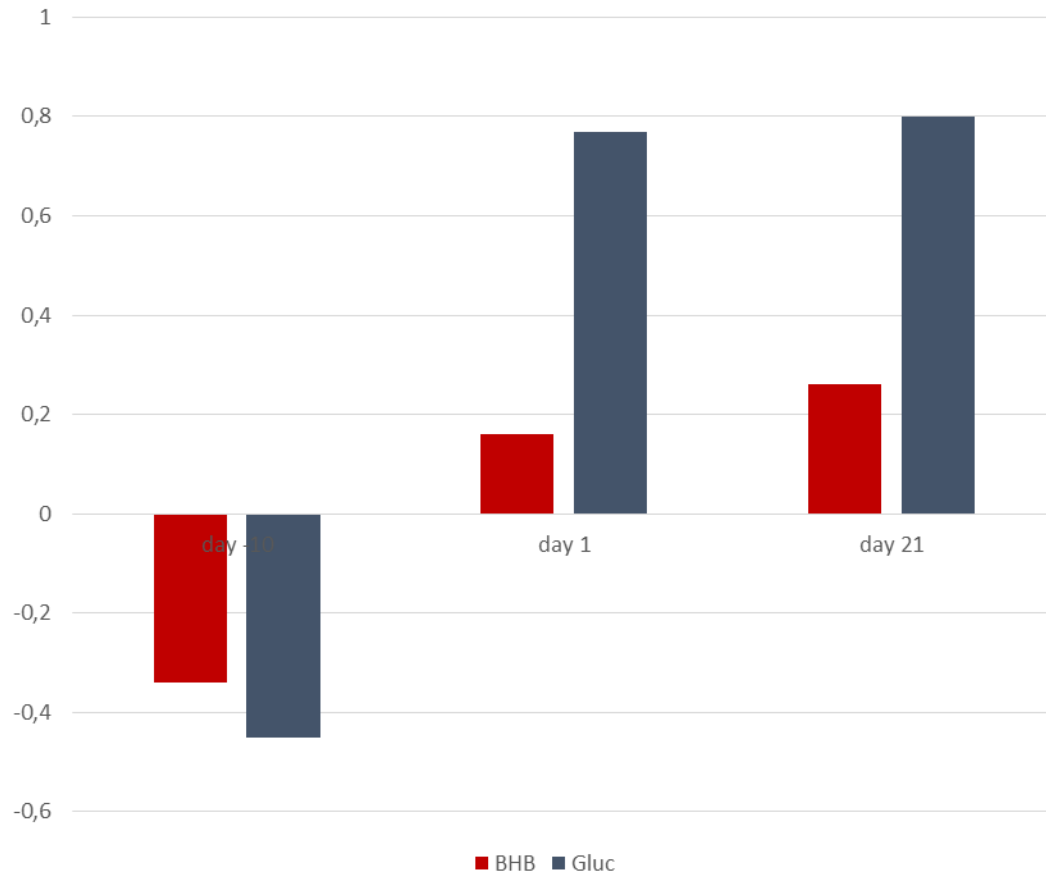
Results



Experiment 2

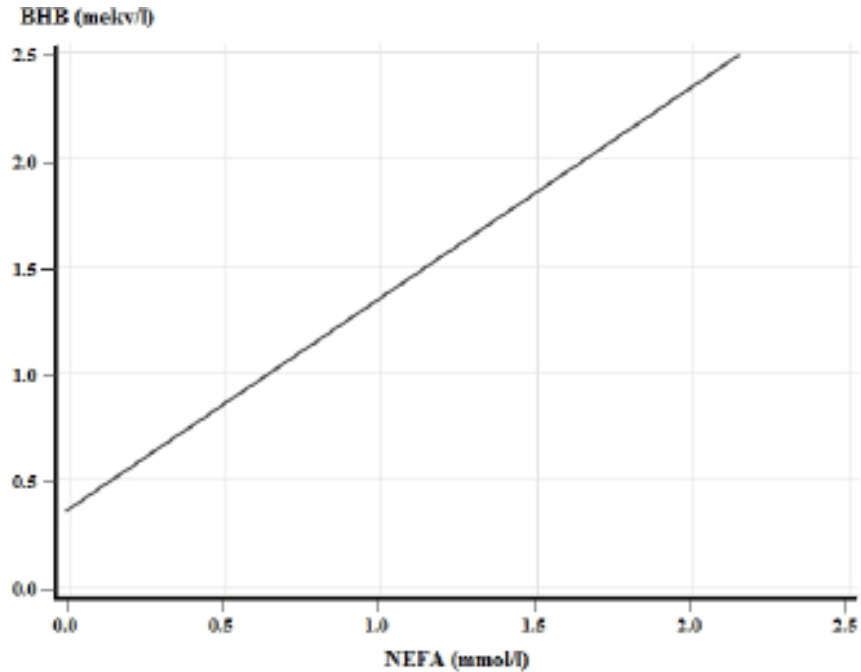


Dietary model

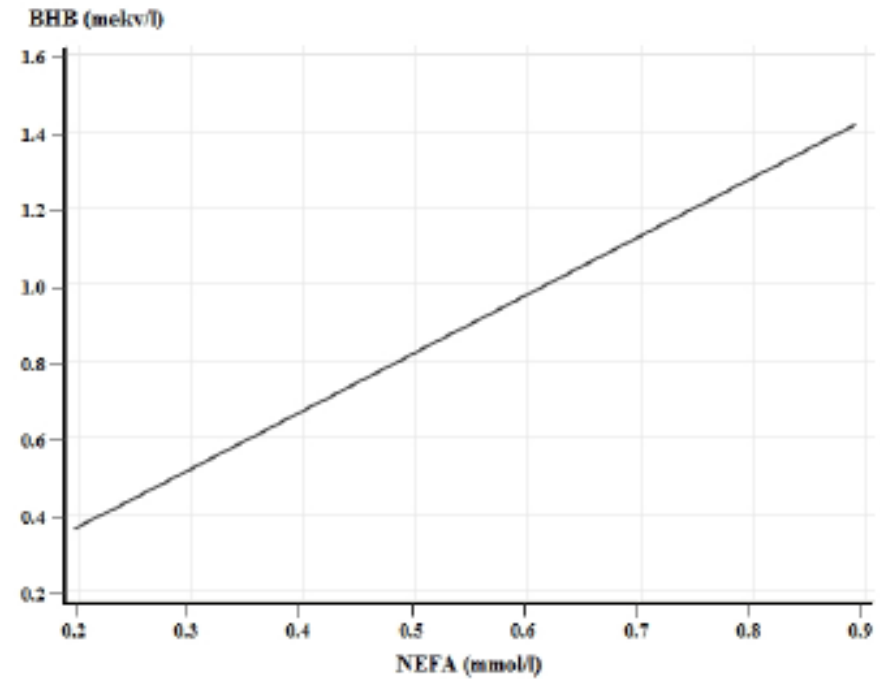


Early lactation; Milk yield; <30L; >30L

R=0.99

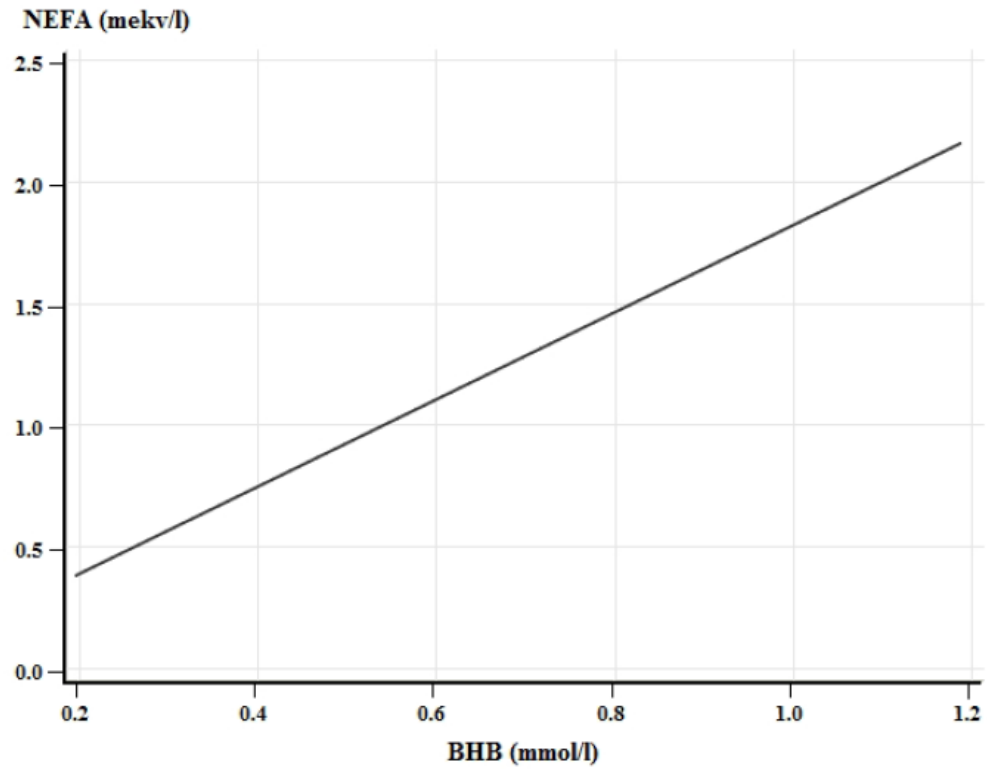


R= 0.79

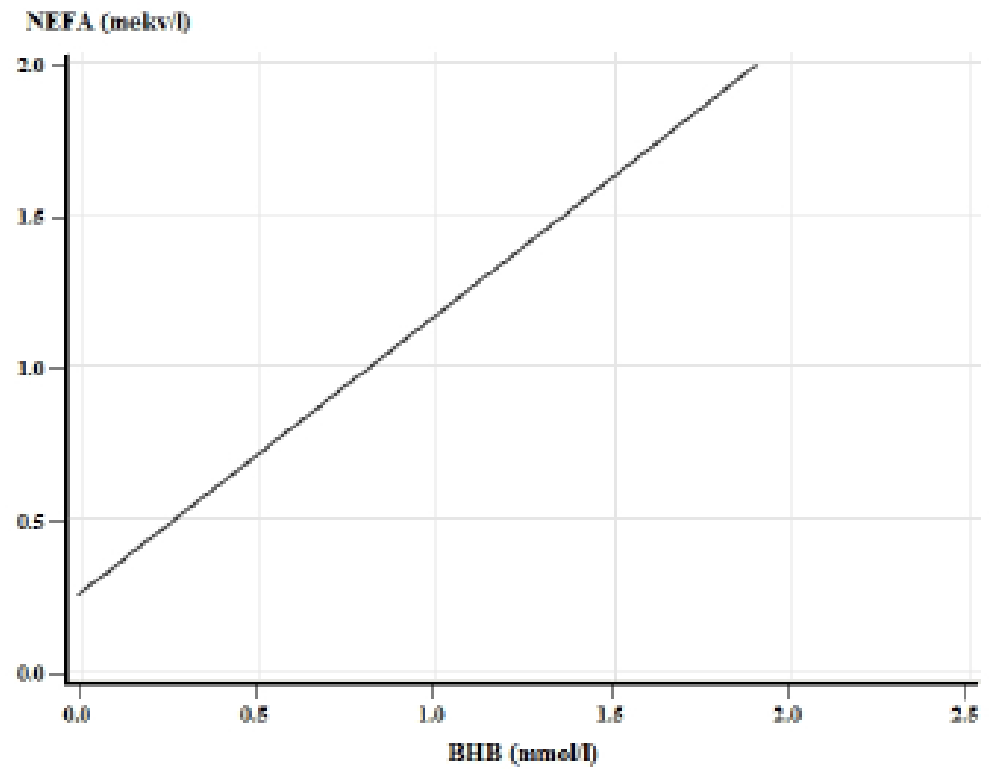


BCS; >3; <3

R=0.85

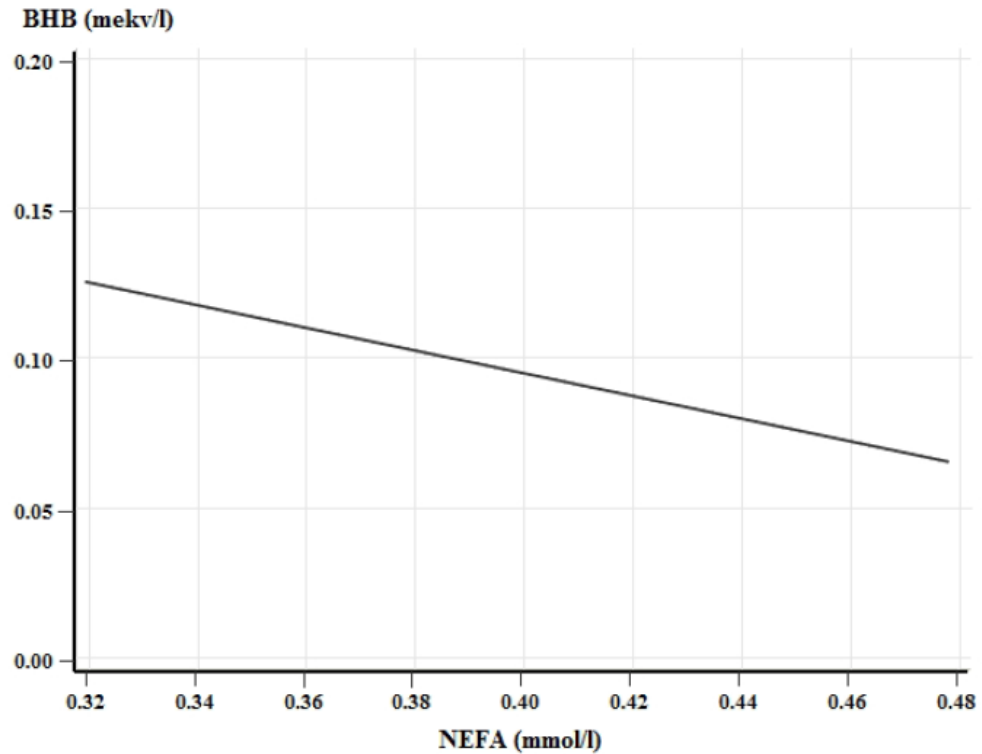


R=0.79

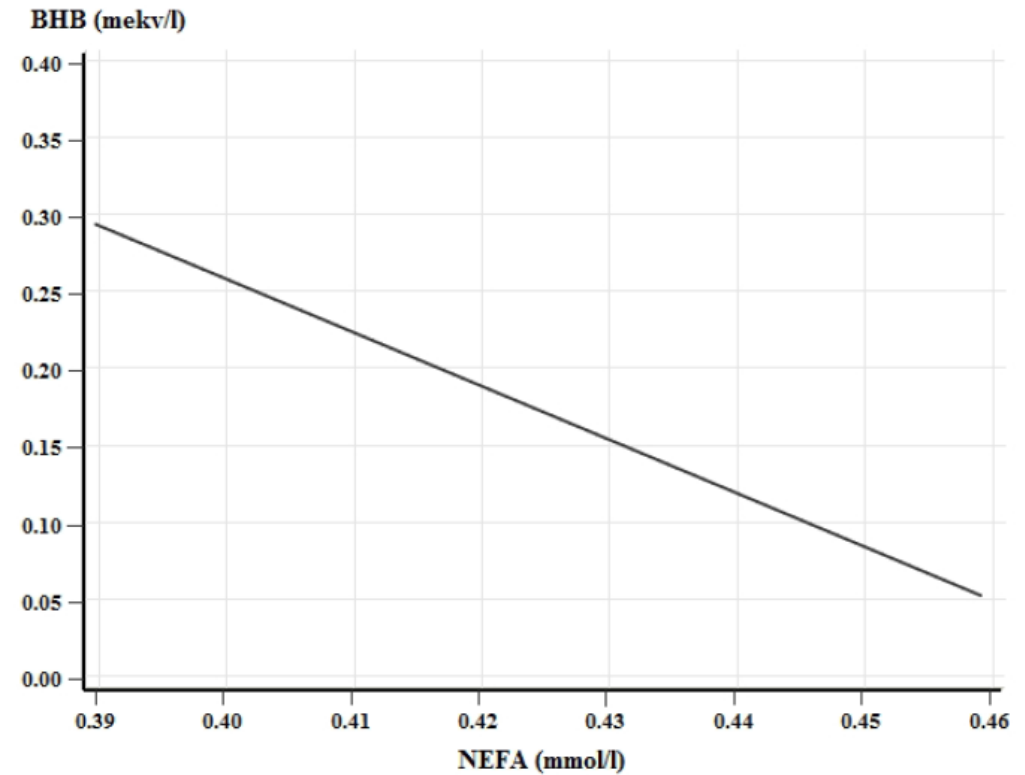


Group 2; <30L; >30L

R=-0.38

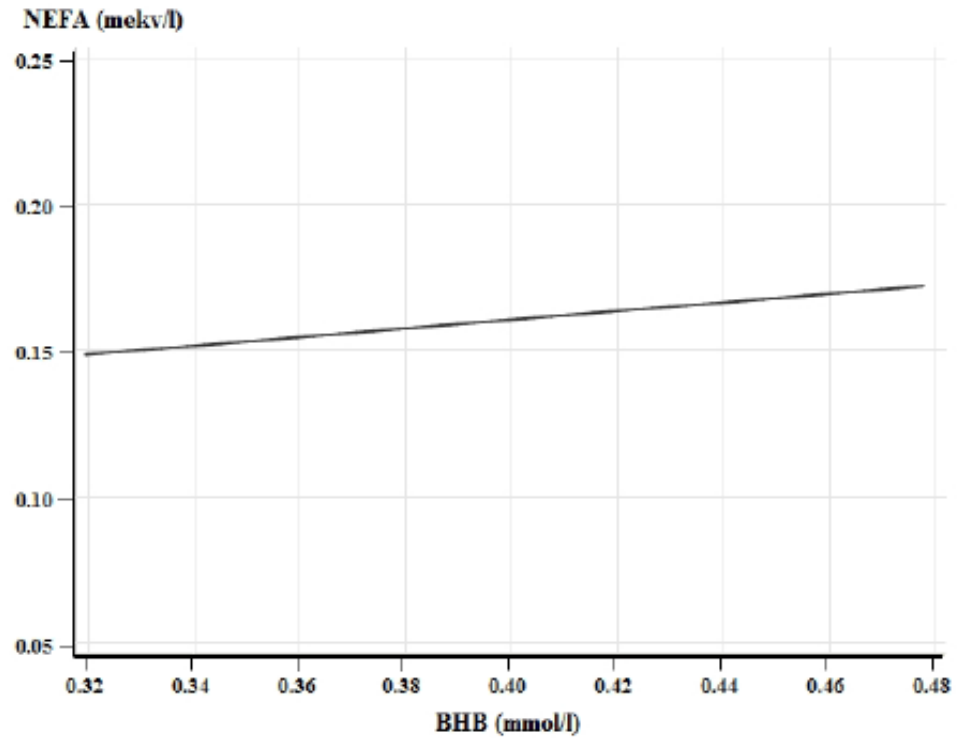


R=-0.48

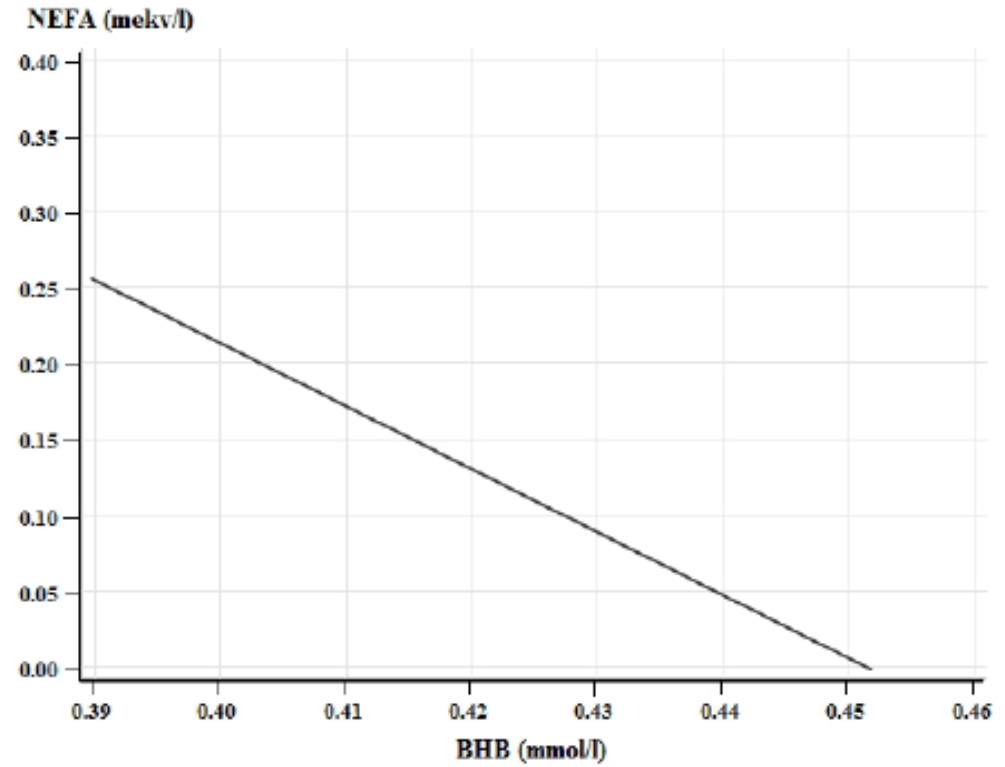


Group 2; BCS <3; >3

R=0.15



R=-0.23



Conclusions

- The correlation between the commonly used markers of NEB was strong and significant in the first two weeks after parturition.
- After 4 weeks in lactation this is not relevant tool for monitoring and evaluation risk for metabolic disturbances and their consequences. In that case, it is necessary to take other parameters into consideration.

Thank you
for your attention

