



SCIENCE AND  
EDUCATION **FOR**  
**SUSTAINABLE**  
**LIFE**

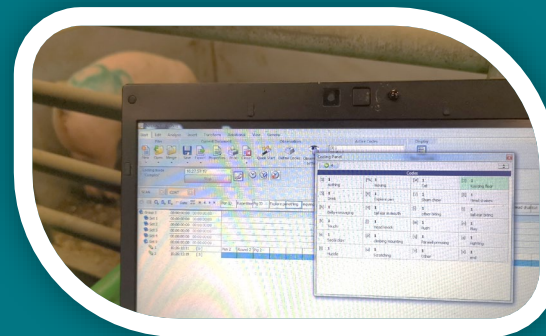
# Influence of feeding technique of silage on behaviour in growing pigs

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# Increased utilization of ley crops in feed for organic pigs

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## Feeding strategies and influence of dietary inclusion of grass/clover silage on production, fertility, N-emission and pig behaviour

Ley crops can to some extent replace other protein sources for pigs. The ley has positive effects in the crop rotation, but there is little knowledge about feeding silage to pigs. In what form should it be fed? How does it affect growth, behaviour, fertility and production economy? In a recently granted project from Formas, we will be able to study this during four years.

Evaluating green protein from ley crops to monogastric animals is interesting and is ongoing in several research projects in Europe. In this project, we will focus on evaluating the inclusion of silage in diets to pigs, as it is of interest to evaluate how to utilise the ley at farm level.









Pigs should be able to perform explorative behaviors...

...so what if we can provide them something that can function as both nutrition and enrichment...!



Silage has an enrichment effect & the pigs like eating silage

However, round-bale silage tends to end up everywhere which affects the weight gain and economy



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“Feeding short, chopped silage mixed with commercial feed results in maintained growth performance”

J Friman, T Lundh & M Presto Åkerfeldt (2021)  
Grass/clover silage for growing/finishing pigs – effect of silage pre-treatment and feeding strategy on growth performance and carcass traits. DOI: [10.1080/09064702.2021.1993319](https://doi.org/10.1080/09064702.2021.1993319)



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Would silage with a shorter particle size also function as enrichment?

Silage has an enrichment effect & the pigs like eating silage

However, round-bale silage tends to end up everywhere which affects the weight gain and economy



“ Feeding the TMR diet will increase activity levels and feed-related behaviours”



Photo: manavyemexportfrom Pixabay

**Control, C**  
Commercial compound feed

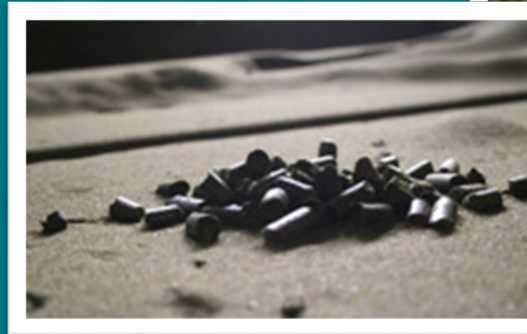
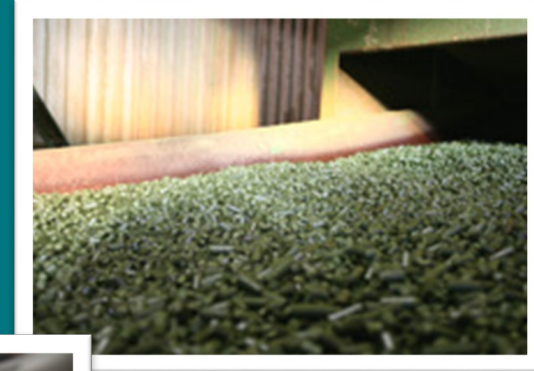


Photo: Genevads Grönfodertork, Laholm, Sweden

**Pelleted silage, SP**  
Compound feed  
with silage inclusion

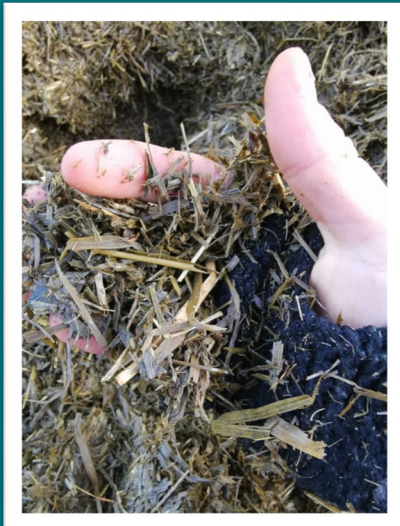
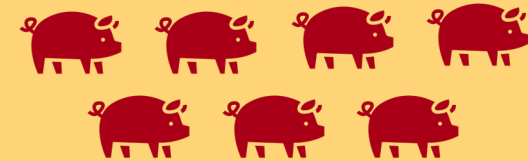
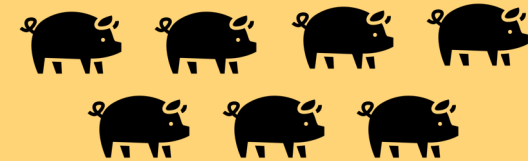
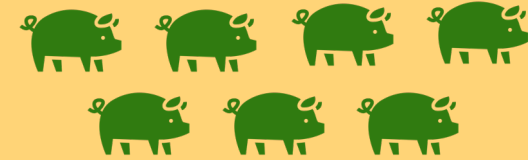
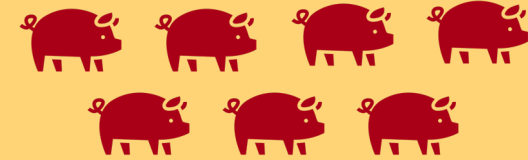
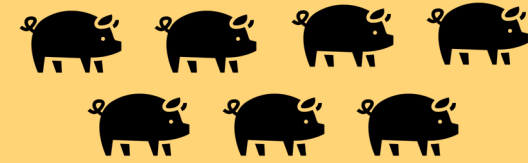
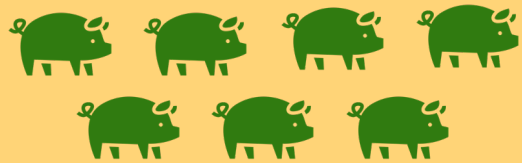
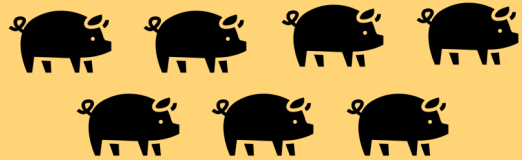
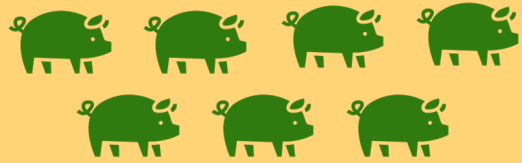
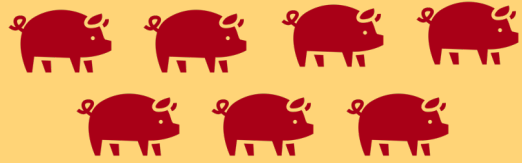


Photo: Johanna Friman

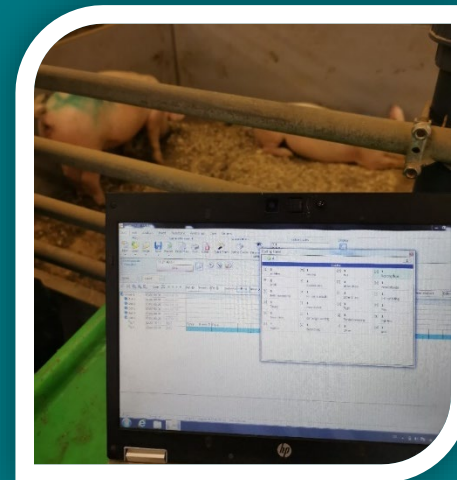
**Total mixed ratio, TMR**  
Compound feed  
mixed with chopped, fresh silage

# Behavioral observations

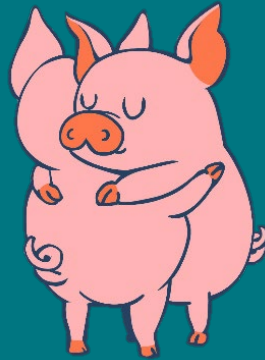
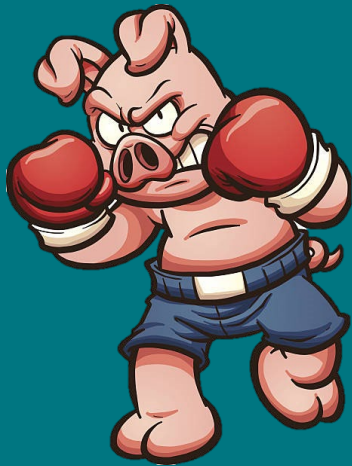
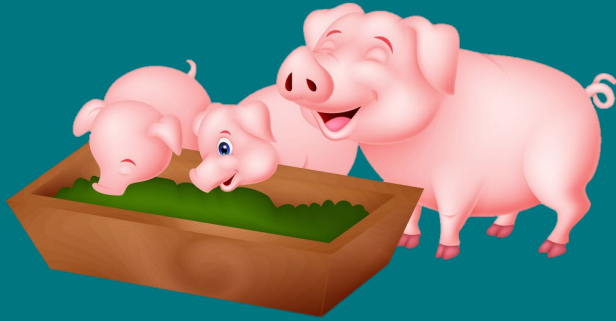


# Behavioral observations

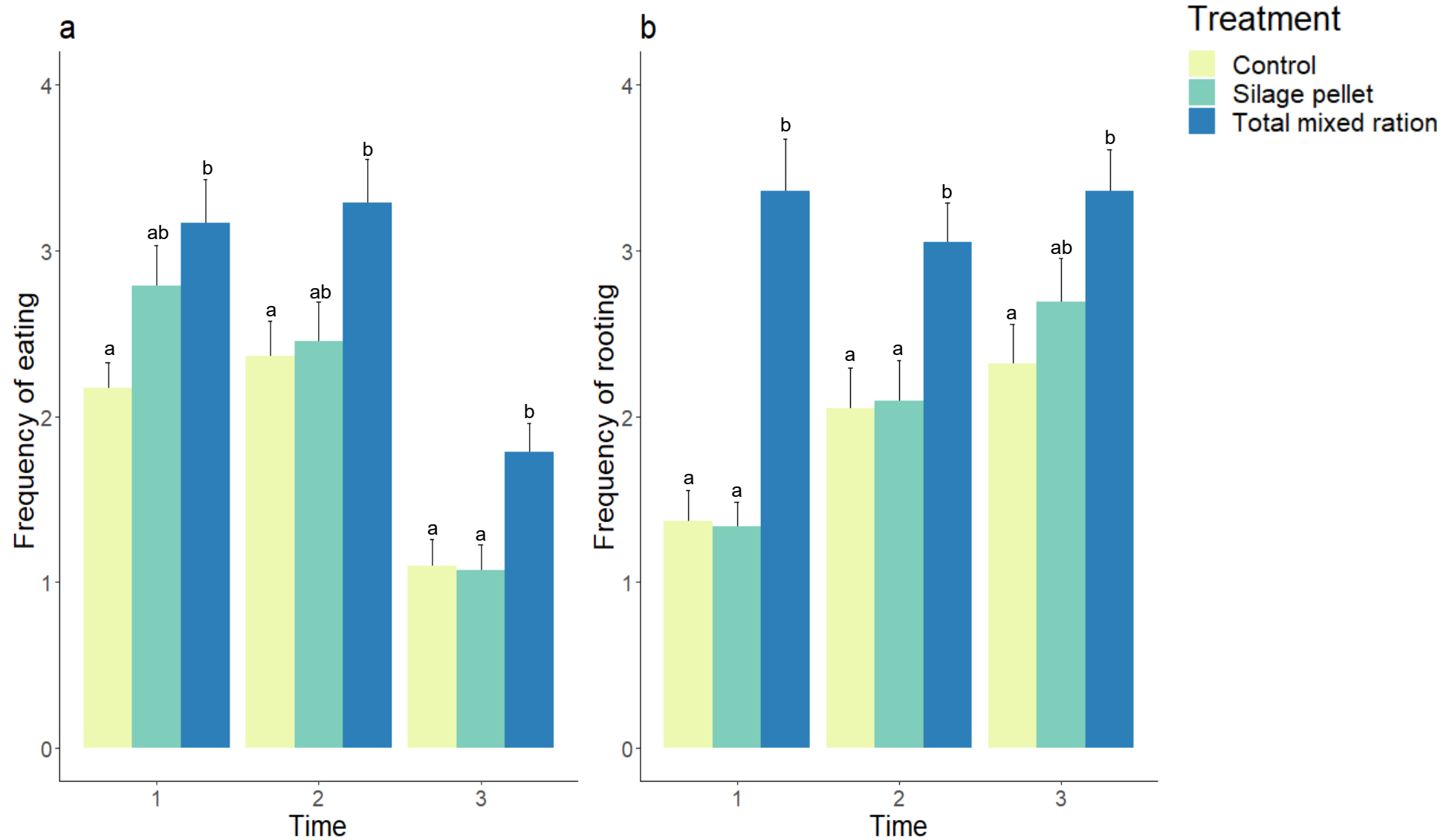
- Observations at 3 occasions (76, 90 and 105 days of age)
- Both SCAN and Continuous sampling
- One 3h session in the morning, 9-12
- One 2 h session in the afternoon, 13-15



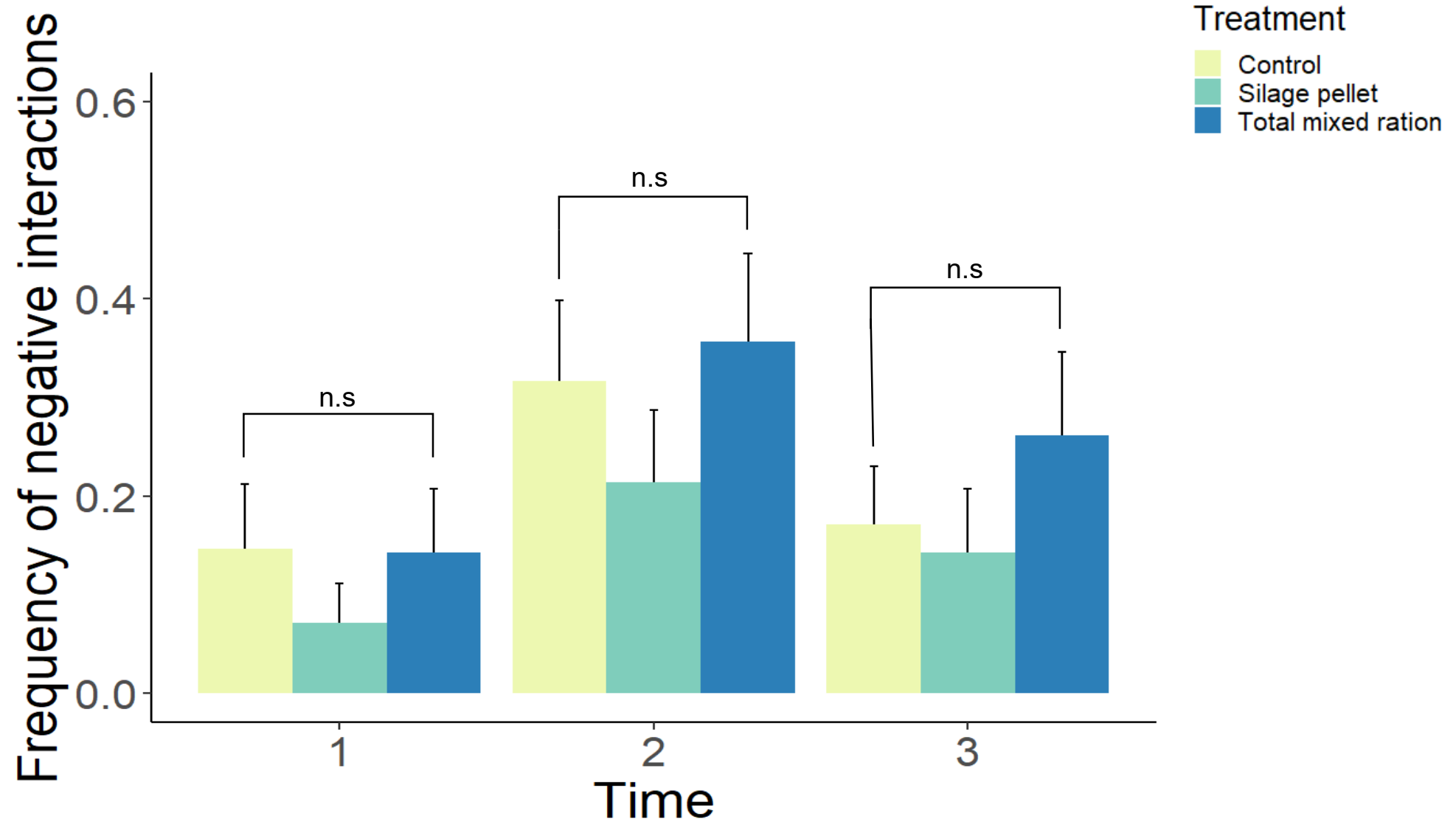
# Behavioral observations



# SCAN sampling

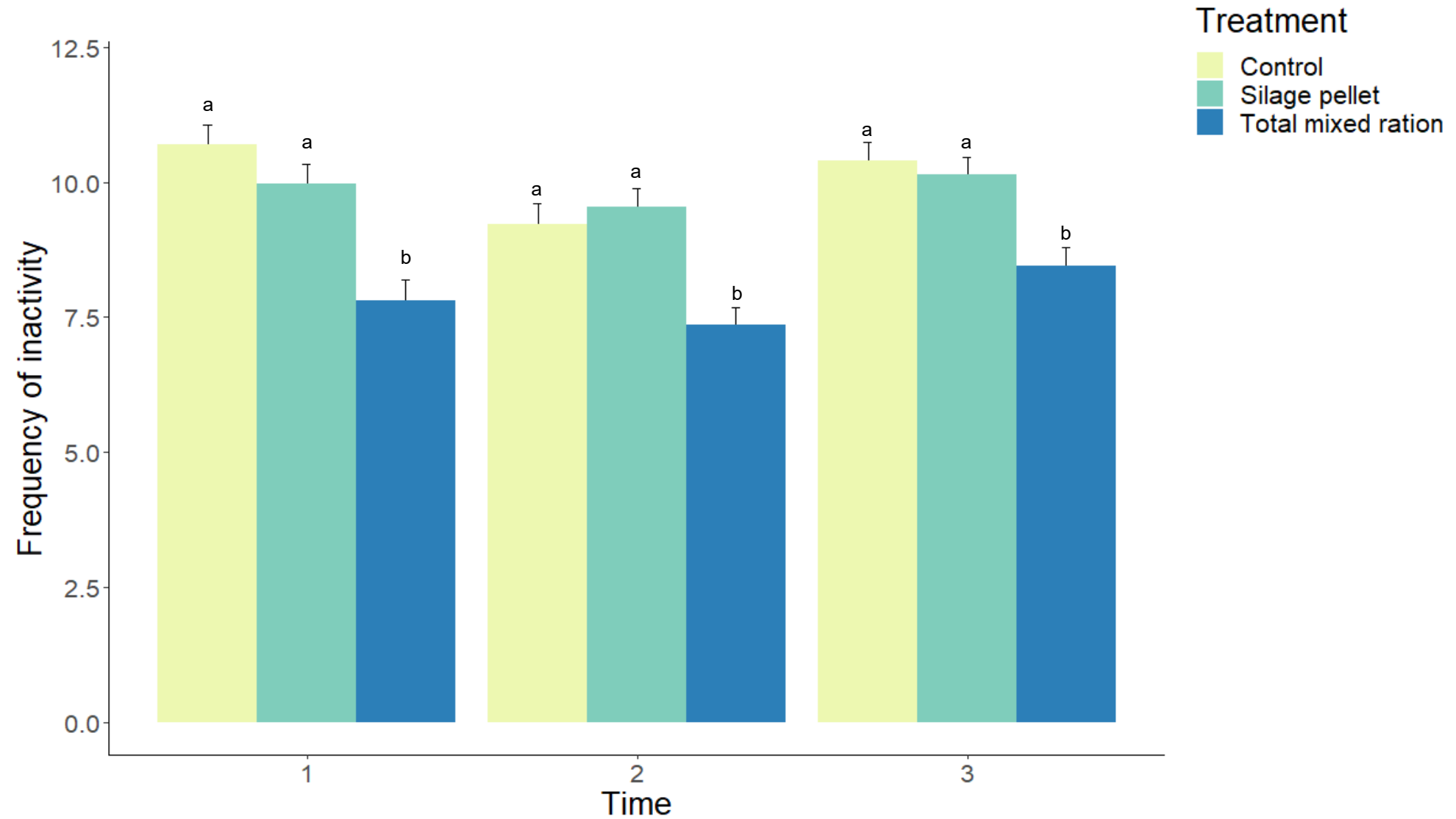


# SCAN sampling





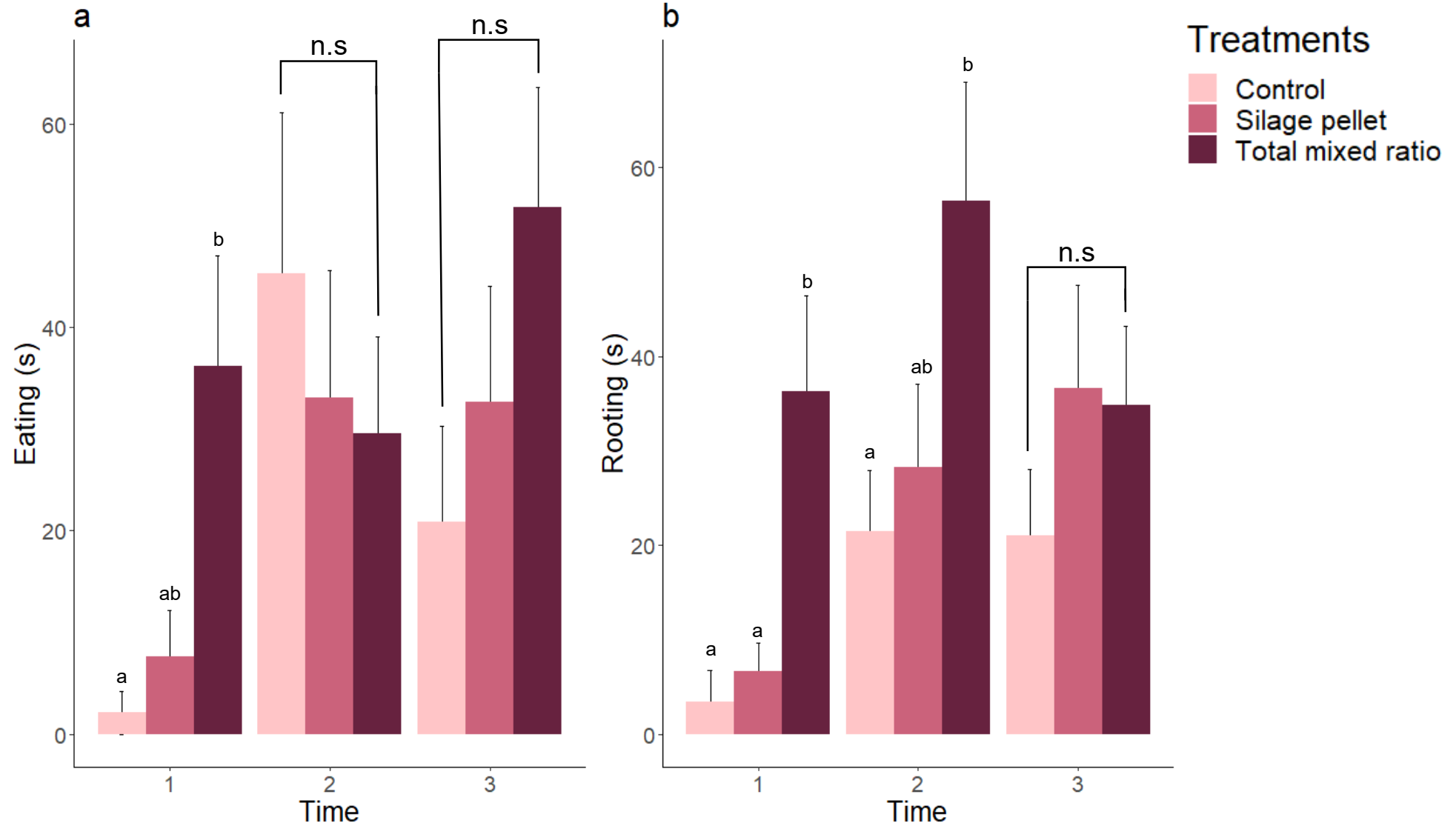
# SCAN sampling



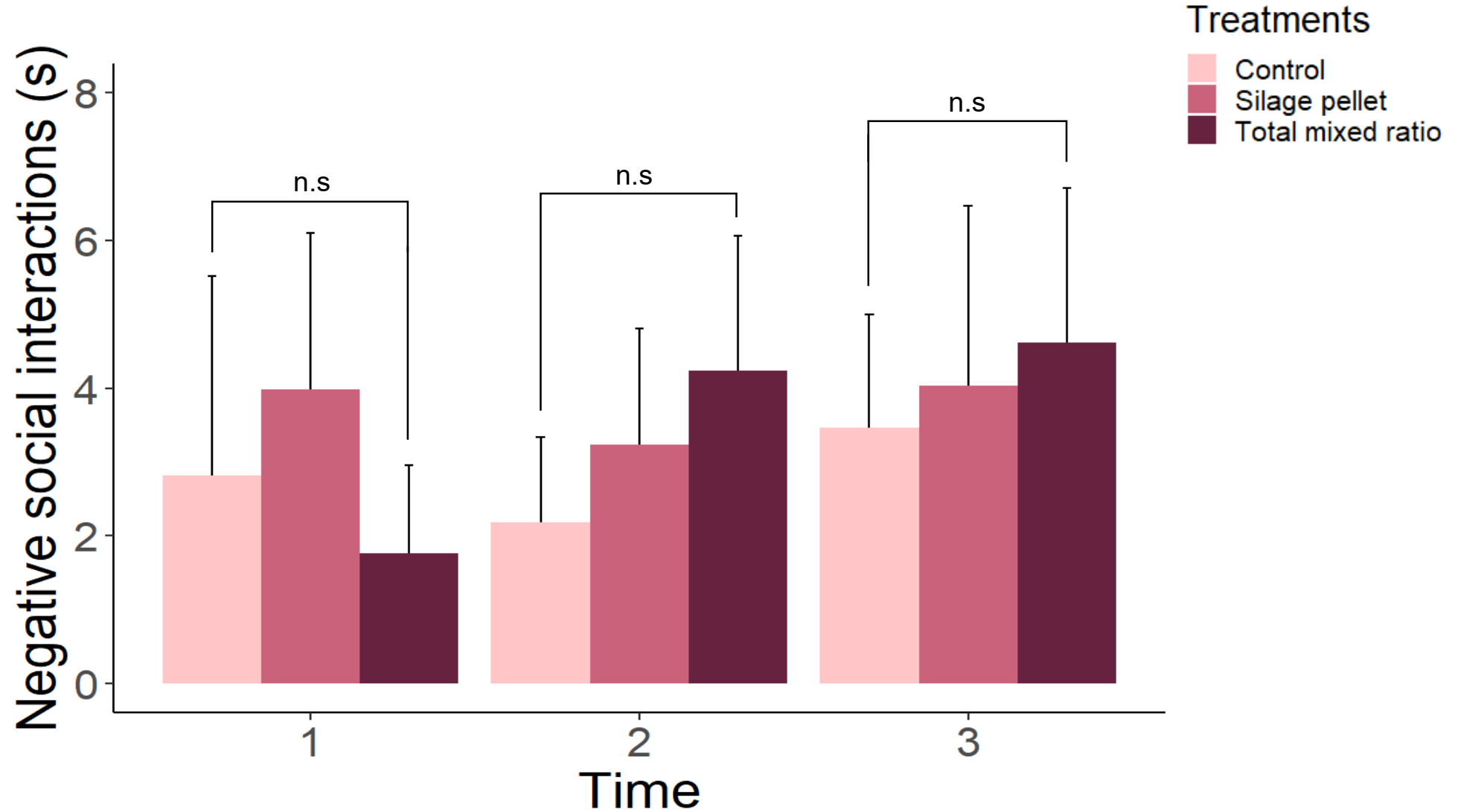
# Continuous sampling



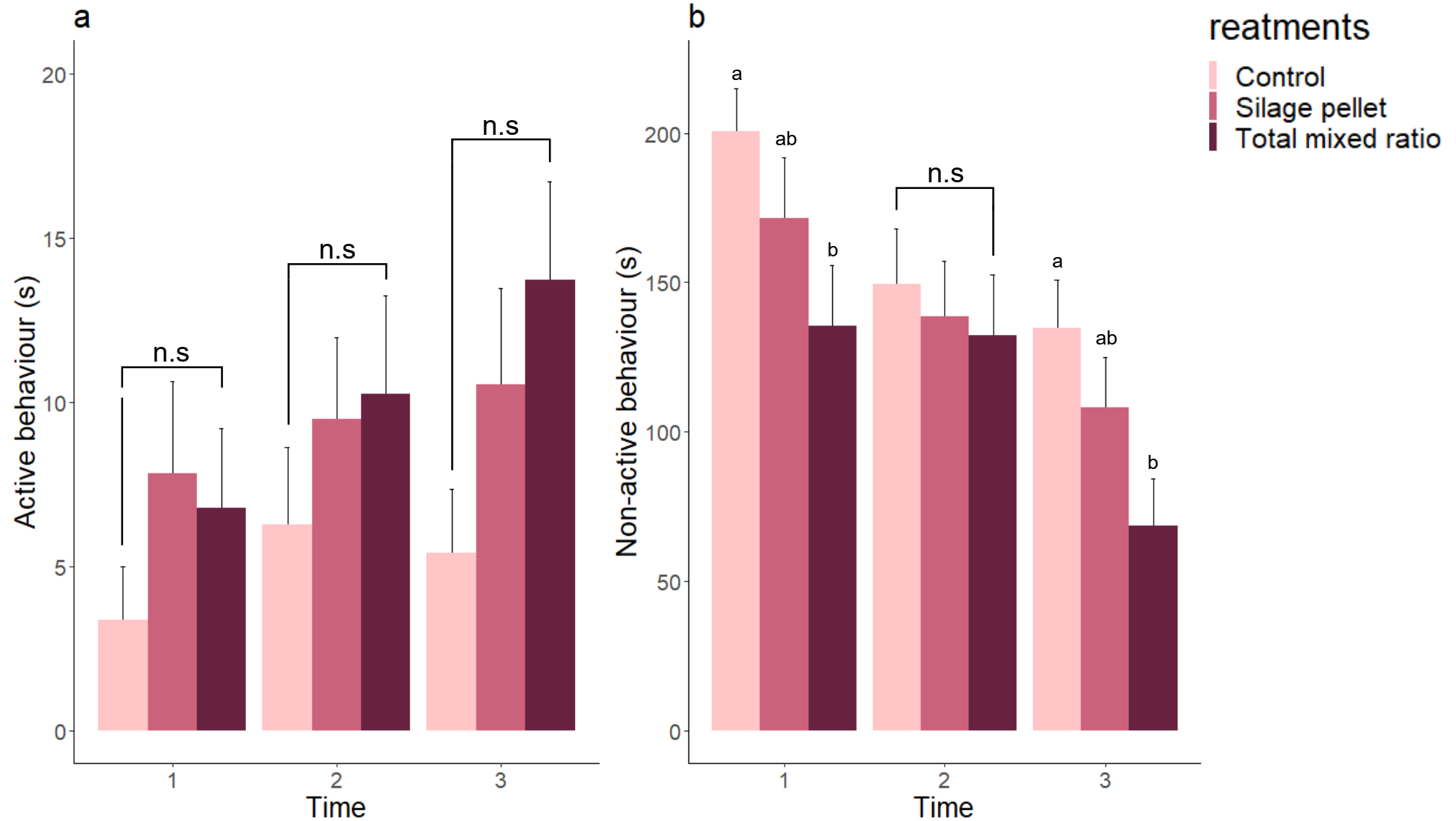
# Continuous sampling



# Continuous sampling



# Continuous sampling

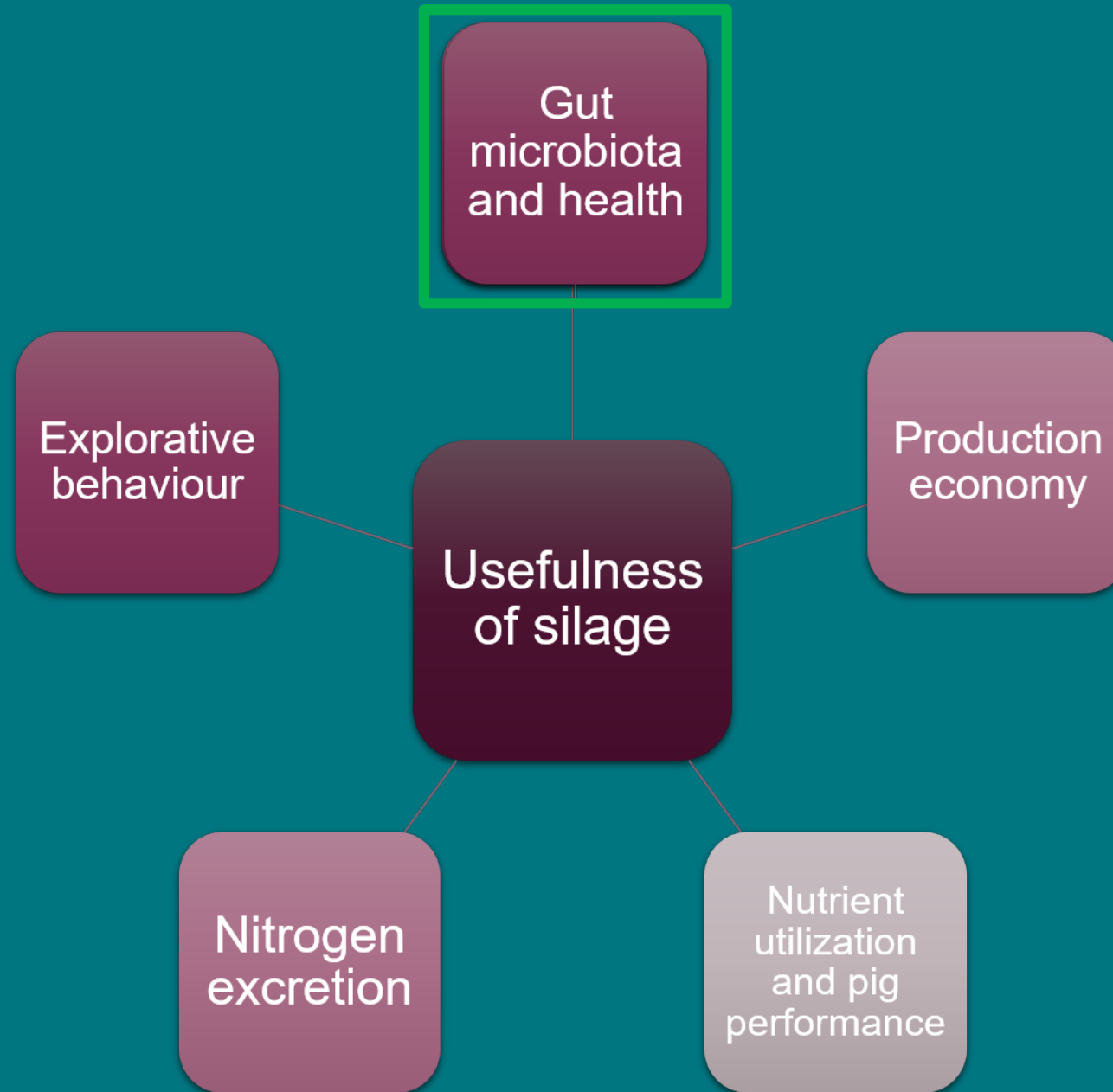


# Summary behavioral observations

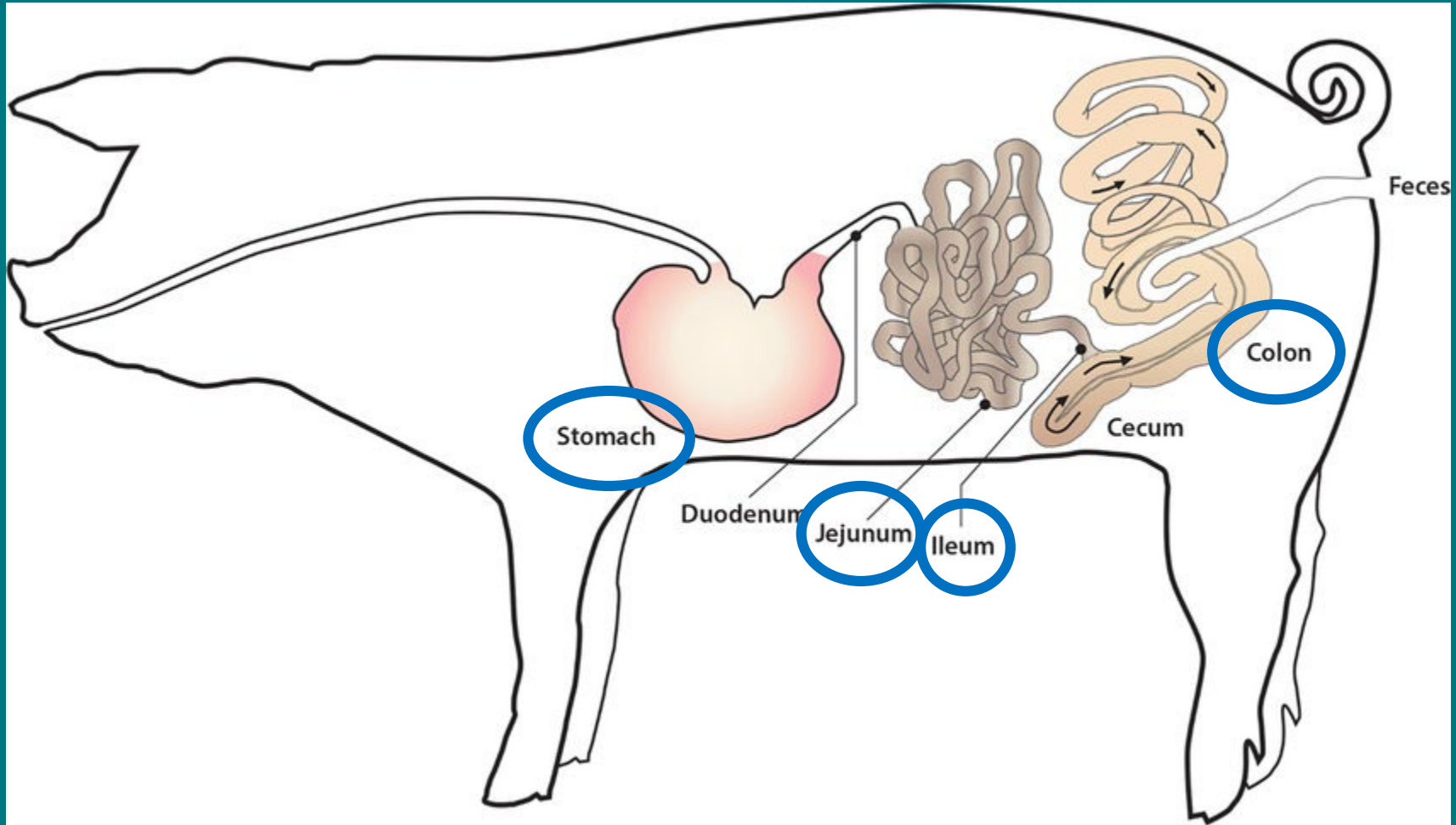
- Feeding fresh silage increased eating and rooting frequencies
- Pig fed fresh silage were more active
- No sign. difference in negative interactions

# Summary behavioral observations

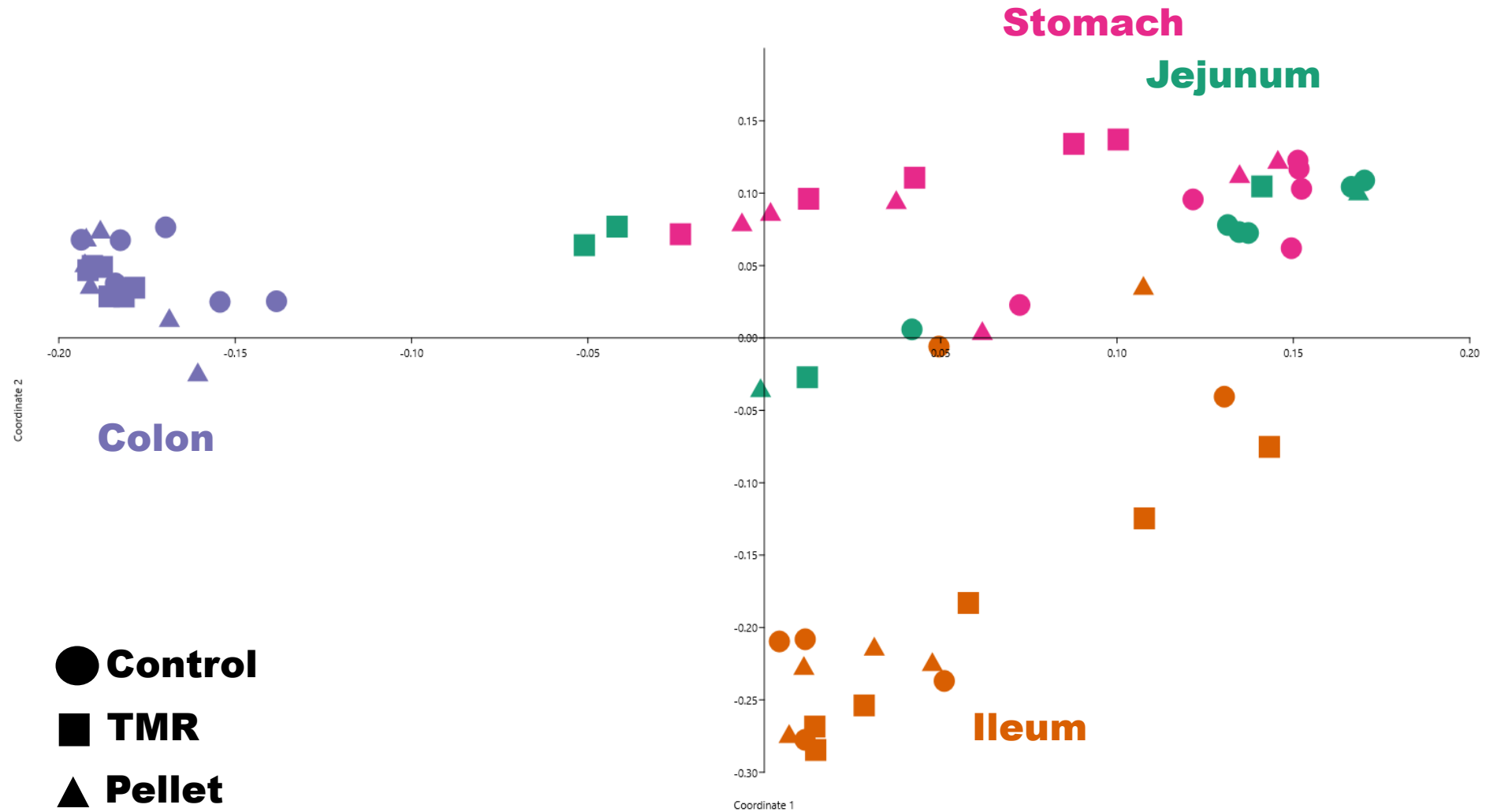
- Longer eating and rooting durations when fed fresh silage
- Negative interactions lasted longer in TMR fed pigs
- Pigs fed fresh silage spent more time doing something, rather than just lying down







# Mikrobiota in different segments



# Take home message

Despite a shorter straw length, chopped silage increases the activity level of the pigs and allows them to perform more feed related behaviors which is beneficial for the pigs' welfare.



# FORMAS



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**Thank you for your attention!**

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