



The influence of transport duration on blood parameters related to the level of hydration in sows

Joanna Klaaborg and Dorte Lene Schrøder-Petersen
Danish Technological Institute, Danish Meat Research Institute, DK-2630 Taastrup, Denmark.

BACKGROUND

In modern pig production, up to 50% of the sows are culled every year. Sows are heavier and older relative to slaughter pigs, which makes them more vulnerable to transport. Despite this, research in the transport of sows is very limited. In Denmark, sows can be transported for a maximum of eight consecutive hours without access to water. The sows' need for water can vary from 10 to 35 L per day depending on body weight and stage in reproduction, among others.

OBJECTIVE

To study the influence of transport duration on the sows' level of hydration after transport.

CONCLUSION

Based on the results from this pilot study, transport duration affects the sows' blood parameters related to the level of hydration after transport. To determine if this has consequences for sow welfare during transport, further investigations need to be conducted.

ACKNOWLEDGEMENTS

Aarhus University, Danish Crown A/S and SPF-Denmark for supporting the work, and the Green Development Demonstration Programme and the Pig Levy Fund for funding the work.

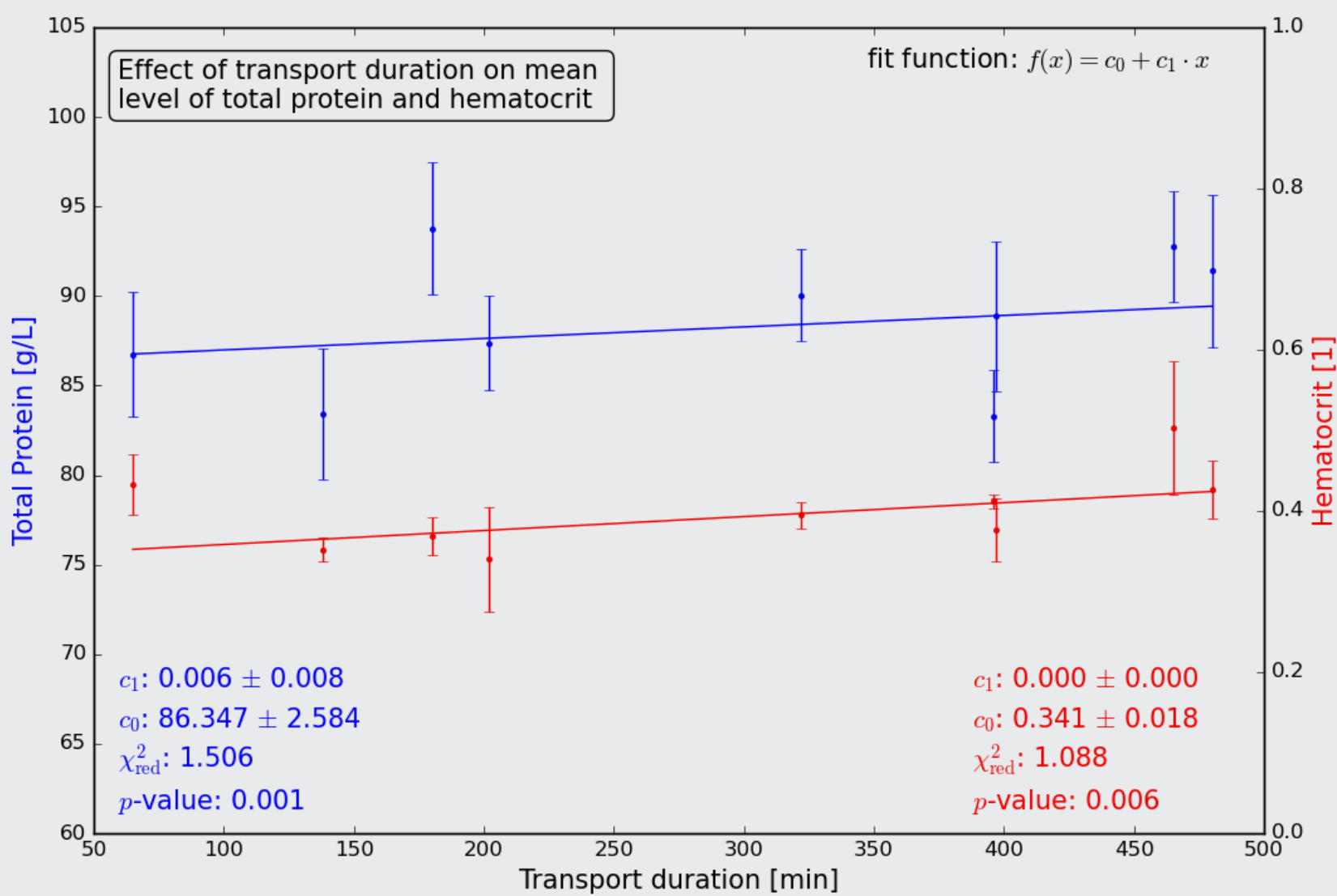
MATERIAL AND METHODS

A pilot study was conducted in a Danish commercial slaughterhouse in December 2020 (temperature mean 3.0°C). Fifty sows, originating from 11 different producers, were selected from five different transports during one day, representing eight different transport times ranging from 1-8 h. The sticking blood was collected from the sows and analysed for the level of total protein (TP), albumin (Alb) and haematocrit (HCT). A linear regression was carried out in Python with transport duration as a fixed variable. The model was fitted based on a Chi square test using MINUIT.



RESULTS

A longer transport duration significantly increased the mean level of TP and HCT (Figure). There was no effect of transport duration on the mean level of Alb. When comparing the mean values of TP and HCT with reference values from the literature, no sows were above normal range, indicating that no sows were dehydrated at the time of slaughter.



CONTACT INFORMATION



Joanna Klaaborg
Consultant
jokl@teknologisk.dk



DANISH
TECHNOLOGICAL
INSTITUTE