

Skin temperature cannot identify sows with increased rectal temperature

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Introduction

To identify sows with possible health issues, at risk of crushing their piglets, a number of herds measure the rectal temperature (RT) daily of sows at farrowing. This is time consuming.

Measurement of skin temperature (ST) is a non-invasive method. However, to be used, it needs to be a robust method indicative of the physical condition of the sow.

The aim was to compare and assess the relationship between RT and ST

Results

GS – RT - Depth: We compared at RT measuring at 6-7 cm depth and an RT measuring at 10-11 cm depth. The RT measuring at 10-11 cm depth showed least variance. It was decided to continue using RT's measuring at 10-11 cm depth.

GS – ST - Location on sow: We compared four different STs and measured at tail-base, behind ear and at udder. The position showing least variance was behind ear and using a thermometer from Microlife.

Comparison of GS-RT and GS-ST: At 123 sows, RT and ST was measured twice. There was only a limited correlation between the measured ST's and RT's.

Materials and methods

The Golden Standard (GS) for measuring RT and ST were determined through a series of initial steps.

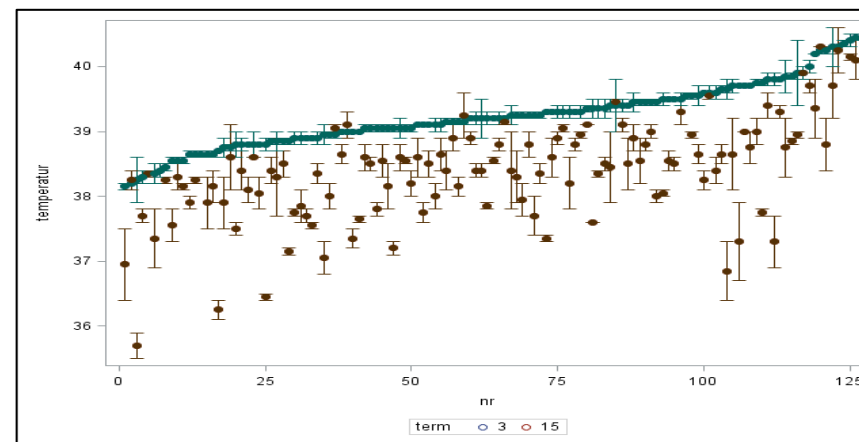
RT and ST thermometers were first trialed to develop GS for protocols for testing.

Measures of interest were depth (RT) and area of the skin to point (ST).

RT and ST thermometers showing the least variance for these measurements were trialed.

Conclusion

Measurement of ST on lactating sows cannot replace measurement of RT, and RTs cannot stand alone.



Two RTs measured on the same sow as well as the average of the two measurements (green) and two STs (measured behind the ear) and average on the same sow (reddish brown).