

## Behavioral response of nursery pigs to reduced nocturnal temperature

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Nursery pigs are housed within their thermoneutral zone without diurnal variation to minimize cold stress. However, previous studies suggested that nursery pigs prefer lower environmental temperatures at night compared to day. Reducing nocturnal temperature in nursery barns may not jeopardize welfare of pigs and can save fuel needed to heat the barn. A study was conducted in 4 replicates to investigate behavioral response of nursery pigs in a reduced nocturnal temperature (RNT) regimen. In each replicate, two identical rooms were assigned to either control or RNT. In the control room (CON), temperatures were maintained at  $25.2 \pm 0.3$  °C constantly. In RNT, temperatures were the same as in CON during daytime (0800 h to 2000 h), but reduced to  $21.8 \pm 0.41$  °C during nighttime (2000 h to 0800 h). Three days after exposure to the experimental temperatures, 6 pens (9 pigs/pen, BW =  $7.9 \pm 0.96$  kg) in each room were video-recorded for 24 h. Two focal pigs in each pen were watched for 10 min every hour for 24 h of the recording period to register duration and occurrence of eating and drinking. Data were analyzed using the Proc Glimmix of SAS with pen as the experimental unit. Eating and drinking behavior of pigs was not affected by temperature treatment. Pigs in both CON and RNT rooms ate for longer periods (427 vs. 166 sec·pig<sup>-1</sup>·h<sup>-1</sup>, SE = 25.8; P < 0.01) and more frequently (1.8 vs. 0.6 times·pig<sup>-1</sup>·h<sup>-1</sup>, SE = 0.11; P < 0.01) during daytime compared with night. Similarly, pigs drank for longer periods (28 vs. 7 sec·pig<sup>-1</sup>·h<sup>-1</sup>, SE = 2.5; P < 0.01) and more frequently (1.6 vs. 0.5 times·pig<sup>-1</sup>·h<sup>-1</sup>, SE = 0.09; P < 0.01) during daytime compared with night. There were no interactions between room temperature and time of day for eating or drinking behaviors. These data suggest that reducing nocturnal temperature by 4 °C does not jeopardize welfare of nursery pigs.

Key Words: Behavior, Pigs, Nocturnal temperature, Eating, Drinking