

THEME 1 | ANIMAL PRODUCTION SYSTEMS

Thermography of trucks during broiler lairage period at slaughterhouse

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Pre-slaughter is one of the poultry farming sectors with lack of information regarding the thermal comfort conditions for broilers. The environment in which the trucks are parked before broiler slaughter may present very stressful thermal comfort conditions to the broilers and influence the final product quality. Therefore, this research aimed at evaluating broiler temperature inside the boxes in the truck, during the lairage period before slaughter. Data collection took place in a slaughterhouse in the western region of Paraná state, Brazil, in 38 trucks, at the slaughterhouse waiting sector which consisted of fans to relief broilers from heat. In the summer period, 19 trucks were evaluated, 9 trucks during the day and 10 during the night. In the winter, 19 trucks were also evaluated, 12 during the day and 7 during the night. Thermographic images were obtained by thermographic camera (Testo 880) in three sectors: left side, right side and behind the truck. Afterwards, these images were analyzed through the software (Testo IRsoft) by delimiting the areas of each sector of the truck and obtaining the values of minimum, maximum and average temperatures from the histograms of the images. Thus, a descriptive analysis of the averages was performed for each analyzed variable. Temperatures values were higher in the summer than in the winter and also higher during the day than at night, considering that these results were already expected. According to the results during the winter period, during the day, the average temperature was 21.3 °C and at night 18.8 °C at the rear of the truck. On the left side of the truck, average temperatures were 20.5 °C during the day and 17.8 °C overnight, the difference being 2.7 °C. On the right side of the truck, average temperatures for winter and summer were 19 °C, 17 °C, 27.4 °C and 21.8 °C during day and night, respectively. The differences from the sides to the rear of the truck may have been influenced by the presence of fans on the sides, considering that there were no fans in the rear position. In summer, the thermal amplitude of the left side of the truck was of 9 °C and in the winter was 5.8 °C. On the right side of the truck the thermal amplitude in the summer was of 9.2 °C and in the winter it was 8.3 °C. In the back part, the thermal amplitude was 9.8 °C in the winter period. The thermal comfort condition during the summer in the daytime period was stressful for the broilers. Greater temperature variability occurred on the right side of the truck during the summer being lesser than in the winter period at the rear of the truck.

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