

STRESS LEVELS OF PIGS SUBMITTED TO THREE WATER SPRAY PERIODS¹

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Stress in lairage time may increase the release of adrenergic and corticotropic hormones (HENCKEL, et al., 2002). In this phase of pre-slaughter, the slaughterhouses use water spray on pigs to minimize stress by heat because it provides the decrease of body temperature and cardiovascular stress, besides calming the animals down (WEEDING, et al., 1993).

The experiment was carried out in March, 2010 in the western region of Santa Catarina and temperature ranging from 20 to 23°C. 315 barrows were submitted to three water spray periods: 30 minutes (15 min upon arrival at the pen and 15 min at exit), 60 minutes (30 min upon arrival at the pen and 30 min at exit) and 360 minutes (continuous use of water spray) during 6-hour lairage, according to Law No. 711 from November 1, 1995 (BRASIL, 1995). The pigs were randomly distributed in three treatment pens, density of 0.60m²/100kg, and 45 pigs were analyzed daily. For stress levels, blood samples were collected to analyze cortisol, creatinekinase and lactate. The averages of stress indicators were compared by Student's t test protected by the global significance of F test, and analyzed by GLM procedure (SAS, 2008).

There was no difference ($p \geq 0.05$) in the levels of cortisol, lactate and CPK of pigs submitted to three water spray periods in the lairage pens of the slaughter, indicating that the animals kept the same stress standard.

Cortisol levels of pigs submitted to three treatments presented values from 5.77 to 7.13 µg/dL which were similar to the values found by Brown et al. (1998) when pigs were submitted to minimum stress situations (7.62µg/dL).

Blood lactate values varied from 9.42 to 10.68 mg/dL. Warriss et al. (1994) observed differences in the lactate concentrations of pigs slaughtered stress conditions were 139.8 mg.100mL⁻¹ and minimum stress was 63.5 mg.100mL⁻¹.

CPK values varied from 3.48 to 3.62 log UI/L. These results were similar to the ones by Gispert, et al (2000) who found CPK values between 3.7 and 3.9 log UI/L when they evaluated pigs' welfare and meat quality in five Spanish slaughterhouses.

It was concluded that the continuous use of water spray is less indicate for pigs in lairage because the stress levels did not offer any advantages on intermittent systems.