Dark house and broiler chicken welfare related to meat quality

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It is known that broiler chicken raised under dark house conditions is favorable in livestock index comparing to conventional barn. The objective of this work was to report the effect of dark house growing conditions on the broilers stress comparing to the conventional barn measured by the occurrence of PSE meat in breast fillet. This study was conducted in a commercial plant with 216 lineages Cobb broilers dividing them into 2 treatments: Treatment 1 (T1), dark house barn (n=108), Treatment 2 (T2) (n=108) conventional barn. They were located by 20 km from the slaughterhouse. After productive phase of 46 days, the animals were transported to the commercial slaughterhouse being exposed to the environmental conditions of the 2011 summer season under temperature of 28ºC and 51% RH. Animal stressful conditions were measured by the PSE meat incidence evaluating pH at <5.80 and luminosity at L*>53 values. The Student’s t-test (p≤0.05) was used to determine significance differences between treatments. T1 showed the average lower pH value of 5.78 compared to T2 of 5.82. T1 showed higher L* values of 54.01 in relation to T2 of 52.93. These results show that birds from dark house presented 14% higher value of PSE meat in relation to samples from conventional barn. In conclusion, it can be postulated that the growing conditions for poultry dark house are the worse treatment compared to conventional production system, probably due to the effects of management conditions being less stressful however higher pre-slaughter stress conditions management especially during transportation.