

DOES IMPROPER STUNNING INFLUENCE THE ANIMAL BASED MEASURES OF CONSCIOUSNESS IN SLAUGHTERED LAMBS?

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To protect animal welfare at the time of killing, Reg. 1099/2009 (EC) states that animals must be stunned effectively. The aim of this study was to evaluate, in an industrial abattoir, whether the improper application of the head-only electrical stunning influences the presence of animal-based measures (ABMs) related to the presence of consciousness in lambs.

A total of 1002 lambs (mean LW=6.4 kg) were observed in an Italian industrial abattoir. Two cameras video recorded two operators (Op1, Op2) performing stunning, hoisting, and bleeding during an average post-cutting period up to 50s

Videos were analyzed using BORIS v.8.22.6. The application of the stunning method (incorrect position of the tongs and the duration of the application) and the ABMs of consciousness (presence of rhythmic breathing - RB, head-righting reflex - HRR, and righting reflex - RR, blink - BL, vocalization - VO, movements of ears - MEa, head - MHe, eyes – MEy, and nostrils - MNo) based on EFSA opinion (2021) and German SH training (Von Holleben, 2022) were evaluated by a trained observer. Descriptive analysis was then performed. When the stun was poor (N=936) the lambs exhibited: RB (15%) MEa (35%), MHe (21%), MNo (29%), HRR (7%). Moreover, the 32% of the poor stunned lambs showed at least two ABMs. Op1 and Op2 stunned 68% and 32% lambs respectively; both the operators had over the 90% of lambs not properly stunned according to at least one defined quality aspect. These results not only highlight the critical presence of ABMs but also the high incidence of poor stunning quality in both operators. This criticality may be attributed to both the context of a continuously moving production line, and the training undergone by operators in recognizing ABMs in lambs. Considering that it is suggested to use a combination of at least two ABMs, future studies should focus on the relationship between ABMs. An automated solution informing the operator about the incorrect stunning would be beneficial in improving operators' training and lamb welfare at the time of killing.