

Anoxic stunning of poultry

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Summary

Controlled atmosphere stunning (CAS) has the potential to improve welfare of poultry at slaughter but there is a lack of consensus about which approaches are most humane. Evaluation of the welfare implications of any CAS mixture must focus on its likelihood of inducing negative states or experiences during the conscious phase and various studies have examined this. Collectively, available findings suggest that all the CAS approaches tested have potentially negative aspects, and the recommendation for which is the most welfare friendly centers on the interpretation of behavioural responses to CO₂ (particularly respiratory responses) and the welfare impact of vigorous wing flapping during anoxia. Our simultaneous measures of behaviour and electroencephalogram in the lab and in commercially relevant conditions provide evidence that anoxic CAS is associated with vigorous behavioural responses in a period when consciousness cannot be excluded. Some hypercapnic approaches eliminate this possibility, but are associated with increased respiratory disruption and longer induction. The relative importance of respiratory discomfort versus the potential to induce distress due to convulsive wing flapping is a matter for debate. We argue that respiratory discomfort is unpleasant but may be preferable to the risk of poultry experiencing vigorous wing flapping and associated injury in during CAS.