

Electrical stunning effectiveness with current levels lower than 1 A in lambs and kid goats

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Abstract

An experiment with 360 lambs grouped into three Spanish commercial categories, (Pascual, 13–16 kg; Recental, 9–13 kg and Lechal <7 kg carcass weight) and kid goats (7 kg) was performed to assess stunning effectiveness after head-only (HO) and head-to-body (HB) electrical stunning with intensity currents of 0.3, 0.5 and 0.7 Amperes (A) compared to 1.0 A. After stunning, all animals showed tonic-clonic muscular activity and epileptiform EEG, absence of rhythmic breathing, corneal reflex, spontaneous blinking and pain sensibility. The quiescent EEG occurred earlier ($P < 0.05$) in HB compared to HO in all categories. More animals recovered corneal reflex and rhythmic breathing before onset of the quiescent activity after HO (from 15 to 50%) compared to HB (from 0 to 15%) ($P < 0.05$). Concluding, HO and HB electrical stunning with 0.3, 0.5 and 0.7 A induce effective stunning similar to 1.0 A in lambs and kid goats. After stunning and sticking, brain failure occurs earlier in HB than HO system.