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AUBURN UNIVERSITY
DEPARTMENT OF POULTRY SCIENCE



WORTHWHILE OPERATIONAL GUIDELINES & SUGGESTIONS

Broiler Stunning Systems - Low Atmospheric Pressure Stunning

During broiler slaughter most broilers are stunned prior to the neck cut. Stunning is typically conducted by the application of an electrical current or controlled atmosphere stunning (CAS). Historically, CAS has utilized carbon dioxide, argon, or other inert gasses. In recent years, low atmosphere pressure stunning (LAPS) has been introduced as a method of CAS.



LAPS is conducted by gradually decreasing the atmospheric pressure within the stunning chamber to 33 kPa in the first 67 seconds and further decreasing to 20 kPa for the remaining 213 seconds for a total period of 280 seconds. This renders the broilers stunned and unable to regain consciousness (killed). Advantages of LAPS include the elimination of welfare issues during removal from transport coops, shackling, and bleeding, as well as eliminating the need for procurement and storage of gas required for CAS. Disadvantages include the large space requirement required for LAPS CAS on a commercial scale and difficulty in identifying DOAs (dead on arrival).



Multiple studies measuring physical responses (bird behavior, EEGs, ECGs) as well as the impact on meat quality have been conducted. These studies indicate that LAPS is humane, does not negatively impact meat quality, and is generally similar to gas CAS systems. LAPS is currently being utilized on a commercial scale at a processing plant in Arkansas, USA and is now being considered for use in the European Union.

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