

## Further Evidence for the Existence of Broiler Chicken PFN (Pale, Firm and Non-Exudative Meat) and PSE (Pale, Soft and Exudative) in Brazilian Commercial Flocks

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**Abstract :** The quality of broiler breast meat is changing as a result of the continuing emphasis on genetic selection for a more efficient meat production. Breast meat has been classified as PSE (pale, soft, exudative), DFD (dark, firm, dry) and normal color meat, and recently a third group has emerged: the so-called PFN (pale, firm, non-exudative) meat. This classification was based on pH, color and functional properties. The aim of this work was to confirm the existence of PFN and PSE meat by biochemical characterization and functional properties. Twenty four hours of refrigerated fillet, Pectoralis major, m. samples (n= 838) were taken from Cobb flocks 42-48 days old, obtained in Northeastern Brazil tropical region, the Northeastern, considered to have only dry and wet seasons. Color (L\*), pH, water holding capacity (WHC), values were evaluated and compared with PSE group samples. These samples were classified as Normal ( $46 < L^* < 53$ ;  $pH > 5.8$ ), PSE meat ( $L^* \geq 53$ ;  $pH < 5.8$ ) and PFN ( $L^* \geq 53$ ;  $pH > 5.8$ ). The occurrence of control meat, PSE and PFN was 69.09%, 11.10% and 19.81%, respectively. Samples from PFN presented 4.0-5.0% higher WHC in relation to PSE meat and similar to control group. These results are explained by the fact that PSE meat syndrome occurs because of higher protein denaturation as the consequence of a simultaneous lower pH values under warm carcass sooner after slaughtering impairing the myofibril proteins functional properties. Conversely, PFN samples follow normal glycolysis rate maintaining the normal proteins activities. In conclusion, the results reported herein confirm the existence of this emerging broiler meat group with similar properties as control group and it should be considered as normal breast meat group.

**Keywords :** broiler breast meat, functional properties, PFN, PSE

**Conference Title :** ICFTAE 2016 : International Conference on Food Technology and Agricultural Engineering

**Conference Location :** Tokyo, Japan

**Conference Dates :** May 26-27, 2016