

Pale, Firm and Non-Exudative (PFN): An Emerging Major Broiler Breast Meat Group

Authors : Cintia Midori Kaminishikawahara, Fernanda Jéssica Mendonça, Moisés Grespan, Elza Iouko Ida, Massami Shimokomaki, Adriana Lourenço Soares

Abstract : The quality of broiler breast meat is changing as a result of continuing emphasis on genetically bird's selection for efficiently higher meat production. The consumer is experiencing a cooked product that is drier and less juicy when consumed. Breast meat has been classified as PSE (pale, soft, exudative), DFD (dark, firm, dry) and normal color meat. However, recently variations of this color have been observed and they are not in line with the specificity of the meat functional properties. Thus, the objective of this work was to report the finding of a new pale meat color group characterized as Pale, Firm and Non-exudative (PFN) based on its pH, color, meat functional properties and micro structural evaluation. Breast meat fillets samples (n=1045) from commercial line were classified into PSE (pH \leq 5.8, L* \geq 53.0), PFN (pH $>$ 5.8 and L* \geq 53.0) and Normal (pH $>$ 5.8 and L* $<$ 53.0), based on pH and L* values. In sequence, a total of 30 samples of each group were analyzed for the water holding capacity (WHC) and shear force (SF). The incidence was 9.1% for PSE meat, 85.7% for PFN and 5.2% for Normal meat. The PSE meat presented lower values of WHC ($P \leq 0.05$) followed in sequence by PFN and Normal samples and also the SF values of fresh PFN was higher than PSE meat ($P \leq 0.05$) and similar to Normal samples. Under optical microscopy, the cell diameter was 10% higher for PFN in relation to PSE meat and similar to Normal meat. These preliminary results indicate an emerging group of breast meat and it should be considered that the Pale, Firm and Non-exudative should be considered as an ideal broiler breast meat quality.

Keywords : broiler PSE meat, light microscopy, texture, water holding capacity

Conference Title : ICASFE 2016 : International Conference on Agricultural Science and Food Engineering

Conference Location : Tokyo, Japan

Conference Dates : May 26-27, 2016