BIOCHEMICAL CHANGES IN PSE (PALE, SOFT, EXUDATIVE) BROILER BREAST DURING AGEING AND MEAT QUALITIES

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The objective of this work was to evaluate PSE broiler breast meat qualities throughout storage from 0-120h at 0°C. Broilers at 42-day old were slaughtered according to the standard industry practice and fillets (Pectoralis major m.) was evaluated for pH and L* values. Samples (n=36) were classified as normal at pH_{1h30}>5.8 value and the same number of samples as PSE at pH_{1h30}≤5.8. Myofibril fragmentation index (MFI) was determined as the indirect measurement of calpain activity. Cooking Loss (CL) was measured by weighing before and after 30 min cooking at the internal temperature of 75°C. Shear Force (SF) was measured in the same samples used for CL analysis. Samples were cut into 1x1x2cm, and analyzed on a texturometer TATX-2i and expressed in Newtons (N). Student t-test was used to determine significant difference (p≤0.05) between samples. Results showed PSE meat presented CL approximately 20.0% higher than normal samples up to 72h postmortem. After this period, a further increase of 20.0% in CL_{72h} was observed indicating muscle proteases activities were occurring within endomysium helping to open up these channels facilitating the dripping. On the same time, SF_{24h} values were lower probably because of earlier calpain activity however after this period, a gradative increase of SF was observed being at SF_{120h} twice as much higher (48.61N) in relation to normal samples (27.38N). Protease activity presented higher values in PSE meat (76.79) than control samples (73.78) at 72h postmortem. In conclusion, PSE meat should be consumed at 24h of refrigeration for the tenderness quality.