

ATPMETRY IN POULTRY SLAUGHTERHOUSES
ASSESSMENT OF THE ATP-BIOLUMINESCENCE METHOD AS A PROCESS CONTROL ON CLEANING-DISINFECTION EFFICIENCY IN POULTRY SLAUGHTERHOUSES

BENDEDDOUCHE B., BENSID A.

This study was led in one of the major poultry slaughterhouses in Algeria. It compared the performances of the ATP-bioluminescence assay and total viable count as controls on the efficiency of cleaning and disinfection procedures on ten sets of equipment in direct contact with carcasses. Analysis revealed a linear relationship between the log values of relative light units (RLU/cm²) and colony-forming unit counts (CFU/cm²). The correlation coefficient obtained on 398 tested samples was 0.57. These findings open up perspectives for predicting an acceptable RLU cut-off based on the acceptable CFU cut-off set by the regulations. Combining the two methods simultaneously, using ATP bioluminescence metrics to check cleaning efficiency and microbiological assay to check disinfection efficiency, proves to be the superior solution.

Keywords: ATP-bioluminescence, Cleaning-disinfection, Poultry slaughterhouse.

**POULTRY MEAT QUALITY
EXPLOITING GENOMICS FOR GENE IDENTIFICATION**

LE BIHAN-DUVAL E., BERRI C., PITTEL F., NADAF J., SIBUT V., GIGA UD V., DUCLOS M.-J.

Poultry consumption patterns have shifted away from whole carcasses and towards pre-cut or processed products in a major trend that has made meat quality an increasingly important factor. There is currently significant variability in poultry meat quality, a situation that needs to be reversed to enable better control over the characteristics of the end-product. In parallel to the technological measures developed by industrial producers, research has been purposed towards upstream measures for improving meat quality, including genetics-based solutions. Complementary genomics-based approaches are being trialled in an effort to identify the genes and subsequently the metabolic pathways governing meat quality variations in the chicken. This research is being led on experimental or commercially-available bloodlines that present varying quality properties. Several chromosome regions (or QTL) regulating different quality parameters (kinetics of the post-mortem drop in pH, colour or water losses by exudation from the chicken fillet) have recently been identified. Research is pressing on in an effort to pinpoint the underlying polymorphisms. The applied objectives are to develop genomics-based animal selection tests, and from there, to capitalize on a better understanding of the mechanisms involved by adapting farming conditions to optimize product quality.

Keywords: poultry meat, quality, genomics, QTL

**FRESH PORKMEAT
OPERATIONALLY-DEPLOYABLE MEAT QUALITY CRITERIA: LINKS TO EXUDATIVE LOSSES**

VAUTIERA.

The fresh meat industry is looking for ways to predict the water binding capacity of meat in order to optimize meat sorting and reduce the economic impacts involved. It is crucial to select a good of exudate loss predictor. This study was designed to compare predicted exudative water losses based on post-slaughter quality criteria metrics. The quality criteria measured at 5 and 24 hrs post-mortem, including pH, conductivity and L value, were more strongly correlated to exudative losses than measurements taken at 30 minutes post-mortem. These results were recorded under relatively unstressful animal handling and anaesthesia conditions, on meat with higher-than-average pH1hr levels indicating very minimal likelihood to go PSE. Under this specific condition-set, the pH24hr of Longissimus dorsi muscle appeared the best-ranked predictor of exudative losses among the measurements tested.

Keywords: pork, water losses, sorting

MICROBIOLOGICAL QUALITY OF COOKED HAM

TEMPERATURE-RESISTANCE OF THE LEUCONOSTOC STRAINS ESSENTIALLY RESPONSIBLE FOR ALTERATIONS IN PRE-SLICED COOKED HAM

RIVOLLIER M., CHRISTIEANS S.

The temperature-resistance of strains thought to be responsible for alterations in cooked ham was studied by artificially seeding (104-106 CFU/g meat) the three main strains incriminated: two lactic bacteria (*Leuconostoc carnosum*, *Leuconostoc mesenteroides*) and one environmental contaminant (*Aeromonas hydrophila*).

Microbiological analyses were led on the raw materials in order to assess initial bacterial load and bacterial load before cooking, after cooking/during cooldown, at mid-shelf-life and at use-by date.

This study confirmed that the bacteria tested were temperature-sensitive to the cooked ham temperature programme. However, during cold storage, a certain proportion of the endogenous lactic flora was able to survive up to the use-by date (day30) on the vacuum-packed whole hams conserved at 4°C. This persistent flora, although found in low concentrations, is nevertheless still present on the sliced and packaged end-product, where it finds conditions conducive to growth.

To conclude, the technological cooking treatment does significantly reduce the bacterial content but does not totally eradicate all bacteria.

Keywords: cooked ham, temperature-sensitivity, persistent secondary flora

THE TRAINING OF THE PRICES OF THE MEAT: INFLUENCE OF COMPETITION BETWEEN SIGNS OF DISTRIBUTION
MAINSANT P.

In 2008, the French Ministry for Agriculture set up a think-tank to investigate retail food prices through two initiatives: a report, termed the "Besson report", on how retail food prices are forged, and a focus group, known as the "prices and markup observatory", syndicating industry professionals. These initiatives converged around a time-honoured hypothesis on the fact that minimal real inter-food retailer competition leads to abusively high retail markup and food prices. These hypotheses were given widespread media attention. This paper seeks to redress the deficiencies and errors made, drawing exclusively on 'meat'-related case-files illustrated in the Besson report.

The report conveniently skipped over laws that the French state had passed 45 years ago to minimize competition with supermarket chains, including the 1973 Royer law regulating the opening of new supermarkets, and the 1996 Galland law regulating promotions on brand-name products. Since both of these laws had inflationary spin-off, French government then slated them, opting more recently for two new laws: the 2004 Dutreil law and the 2008 LME (economy revamp laws). Next, the PAMP (weighted average purchase prices) from TNS Secodip, which comfortably integrate discount prices, undermined the conclusions of the Besson report based on INSEE (national statistics office) figures and demonstrated that the meat sector did not experience 'ratchet' effects and that retail prices were little reflection of production prices, although in moderate and reasonable proportions. For example, an INRA model shows an increase in gross profit on retail meat in 2001, putatively driven by escalating costs due to the BSE crisis.

In conclusion, it would appear that inter-supermarket price competition has always been around, despite pre-2004 government efforts to curb it. Price competition has found new pathways with own-brand labels and discount supermarkets, both of which are based on industrial and supermarket cost advantages, and which constitute the best way to contain future food price inflation.

Keywords: food price inflation – French supermarkets and hypermarkets – price competition – consumer



English

Summary