

Title Development of a dielectric spectroscopy technique for the determination of key biochemical markers of meat quality

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Abstract

Dielectric measurements of different standard solutions (nucleotides, nucleosides, lactic acid and myoglobin) were assayed simulating the concentrations of these substances in early postmortem meat. These assays were performed for considering the potential use of dielectric spectra for the quality control of meat. Good correlations among solutions of Adenosine Triphosphate (ATP), Inosine Monophosphate (IMP) and lactic acid with loss factor at punctual frequencies (0.5, 0.915 and 1 GHz) were found. The other assayed substances did not present a marked effect over the electromagnetic spectra. Good correlations of dielectric properties with IMP and lactic acid content of real pork meat samples were also found at 0.5 GHz. This work is presenting prospective data of dielectric spectra for certain key biochemical markers in order to consider its potential application as a non-destructive control sensor for the prediction of pork meat quality.