Title Analysis of changes in electric current intensity during high voltage electrical stimulation in the aspect of predicting the pH value of beef

Author Ryszard Żywic and Joanna Katarzyna Banach

Citation Journal of Food Engineering, Volume 81, Issue 3, August 2007, Pages 560-565

Keywords Electrical stimulation; Electric current intensity; pH; Beef; Prediction

Abstract

The paper presents the results of the studies aimed at the identification of changes in the intensity of electric current passing through beef carcasses during high voltage electrical stimulation and correlating those changes with the changes of pH occurring in meat after slaughter.

The analysis of correlation of pH value in the *Longissimus dorsi* muscle of young bulls as the function of intensity of electric current passing through beef carcasses and its change during electrical stimulation showed that at the significance levels of $P < 0.05$ and $P < 0.01$ there is a dependence between the pH values obtained 2, 6 and 24 h after stunning ($pH_{h(2, 6, 24)}$) and the values of pH before electrical stimulation (pH_0), the initial and final value of electric current intensity (I_i and I_f) and the difference between those values (ΔI). The above identified dependence will allow selection of meat on the rate of changes and the final pH value to be obtained 24 h after stunning and identification of DFD meat still before commencement of meat cooling process and an increased mechanization of cattle slaughter plants mainly in the aspect of meat selection.