POSTMORTEM PH AND TEMPERATURE DYNAMICS IN PORK HAM UNDER CONVENTIONAL CHILLING

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ABSTRACT

Meat quality is largely determined by post mortem biochemical processes, particularly the rate and extent of pH decrease resulting from glycogen conversion to lactic acid. The intensity of these changes depends on the animal's genetic background, pre-slaughter conditions, and the technology applied during slaughter and chilling. This study investigated the effect of conventional chilling on pH value and temperature changes in the *Semimembranosus muscle* of 15 randomly selected pork carcass halves, measured at 30 minutes, and 1, 2, 4, 24, 48, and 72 hours post mortem. Measuring of pH and temperature were recorded using a portable pH meter equipped with a calibrated glass insertion electrode. Results showed that, at 30 minutes post mortem, pH value was 6.33 with a muscle temperature of 29.74°C. A progressive decrease in pH was observed at all time points, reaching a mean of 5.61 24 hours post mortem, with temperatures dropping by an average of 4.15 °C. After 48 hours, pH value was 5.98, and after 72 hours, the mean pH stabilized at 5.54. The study confirmed that under conventional chilling, the required internal temperature of 7°C in the ham is reached 24 hours post mortem, which consequently extends the overall pork production process. The results support the conclusion that pH measurement post mortem represents a reliable method for meat quality classification and selection for further processing or sale.

Keywords: *Semimembranosus* muscle, post mortem changes, pH values, temperature, conventional chilling.