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Czech J. Food Sci.

Lazárková Z., Buňka F., Buňková L.,

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Application of different sterilising modes and the effects on processed cheese quality

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The aim of the present work is to evaluate the impacts of four different sterilising modes (110 ° C 100 min, 115 ° C 32 min, 120 ° C 10 min, and 125 ° C 3.2 min – with a constant lethal effect on microorganisms) on some chemical (pH, total and bio-available lysine, and ammonia content), microbiological, and sensory (shade and acceptability) properties of processed cheese depending on the lactose additions (0.0 – 2.0% w/w). All sterilising modes used were sufficient to inactivate the microorganism groups observed (total number of microorganisms, colony forming units of yeasts and/or moulds,

number of spore forming microorganisms). The falling sterilisation temperature kept for an adequately prolonged period of time caused darkening of the processed cheese and a decline of their acceptability. Consequently, greater losses of lysine and ammonia content increase occurred when the sterilisation temperature decreased. Compared to non-sterilised products, the smallest changes were detected in the cheese treated with temperatures 125 ° C for 3.2 min, and 120 ° C for 10 minutes. The decrease of the processed cheese quality was more apparent with the growing lactose concentration.

Keywords:

processed cheese; sterilising modes; lysine; bio-available lysine; ammonia; sensory properties

[fulltext]