INVESTIGATIONS OF FORMATION BIOGENIC AMINES IN COOKED AND COOKED – SMOKED SAUSAGES

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Summary. Tyramine, purescine and histamine were determined with HPLC in cooked, cooked - smoked sausages during the self life period. Cooked sausages were taken from commercial, kept under 5±0.8 0C and investigated 1, 6, 13, 20 days after manufacturing. Cooked - smoked sausages were taken from producers, kept under 5.6±0.5 0C and investigated 1, 8, 15, 36 days after manufacturing. The presence of biogenic amines (BA) Put, His, Tyr and its relationship with microbial development (coliforms, TBC), physico-chemical indices (pH, temperature, a_w, dry matter, proteins) was evaluated.

The investigation of cooked sausages revealed that the highest BA content was in ‘’Daktariška’’ - 6.6 mg/kg, the lowest - in ‘’Mažyliu’’ - 0.71 mg/kg sausage. The estimation of the biogenic amines (Put, His, Tyr) revealed the tendency of the constant decrease in the biogenic amine content during the first stages of the storage followed by the increase after 20 days. The lowest level of BA in all types of samples was observed on 6 day after manufacturing, which was connection of Put reduction.

Aw didn’t change significantly during 20 days storage period and was comparable in all samples of the produces: ‘’Daktariška’’ - 0.939±0.01, ‘’Originalioji’’ - 0.941±0.01, ‘’Mažyliu’’ - 0.938±0.01.

No accumulation of Coli forms was observed in all samples of the sausages during storage period. TBC increased in ‘’Daktariška’’ and ‘’Mažyliu’’ 0.8 lg (CFU) and 1.3 respectively, although reduced in ‘’Originalioji’’ - 0.1 lg (CFU) during 20 days storage period.

The highest concentration of BA in cooked-smoked sausages was observed on 15 day after manufacturing: ‘’Servelatas’’ - 0.64 mg/kg. The decrease took place later, and the 36 day the BA content reached levels such as 0.50, 0.21, 0.15 mg/kg in ‘’Servelatas’’, ‘’Ypatingoji’’, ‘’Saliami’’ sausages respectively. A_w values were unfavourable (0.935 - 0.923) to microflora development during the storage period. TBC increased in the cooked-smoked sausage during 36 days of storage: ’Servelatas’’ - 2.6, ‘’Ypatingoji’’ - 2.5, ’Saliami’’ - 2.2 lg (CFU). No accumulation of Coli forms was observed in all samples of the sausages during storage period. No big variability (6.07 - 6.73) was observed in pH values in the sausages.

The reduction of Histamine was observed on 8 day after manufacturing which is in comply with TBC equilibrium at the same period of the sausages storage.

Key words: cooked and cooked - smoked sausages, biogenic amines, water activity.