

## BIOGENIC AMINES IN COOL SMOKED SAUSAGES WITH BIOLOGICAL ADDITIVES

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**Summary.** The amounts of biogenic amines putrescine, histamine and tyramine were determined by HPLC method in samples of a cold smoked sausages with biological additives: polisaccharide origin prebiotic, mixture of polisaccharide origin prebiotic and probiotic culture Bitec LS25 contained *Lactobacillus sake* LS25 and probiotic culture Bitec LS25. Samples were selected from manufacture and were tested after 0, 15, 20, 35 and 120 days refrigerated storage at  $6 \pm 2$  °C. During this period the production of biogenic amines was studied.

At the start of our study the different levels of biogenic amines fractions in samples were tested. The highest amounts of biogenic amines were determined in sausages with prebiotic. At the end of storage the highest concentrations of putrescine and tyramine were estimated in sausages with prebiotic and the lowest – with probiotic culture Bitec LS25. The highest level of histamine formation was registered in sausages with mixture of probiotic and prebiotic.

At the beginning of our study and during the storage the endogenous coliform bacteria, *Staphylococcus aureus* and *Clostridium perfringens* in samples of a cool smoked sausages were not determined. The lactic acid bacteria in level of  $10^8$  CFU/g were dominated in a cold smoked sausages with probiotic culture and in sausages with mixture of probiotic culture and prebiotic during the storage for 120 days. Inclusion of *Lactobacillus sake* LS25 to a cool smoked sausages influenced the biogenic amines formation during fermentation process and storage for 120 days, but there was no correlation between count of lactic acid bacteria and intensity of biogenic amines formation.

**Keywords:** smoked sausages, probiotic, prebiotic, biogenic amines.