INVESTIGATION OF SAFETY OF BOILED SAUSAGES WITH BLOOD COLOURING AGENT ACCORDING TO SANITARY AND BACTERIOLOGICAL INDICES

T. Kolesnyk, A. Kolesnyk

The formation of color of boiled sausages on the base of nitrites increases their toxicity and makes possible the accumulation of carcinogenic nitrosamines as a result of residual nitrite reacts with amino groups of meat proteins.

The technology of boiled sausage with the colouring agent from the blood of slaughtered animals – carboxyhemoglobin (NbSO) is elaborated. Use of the colouring agent allows reducing in the recipe of boiled sausage of sodium nitrite to 1.5 g per 100 kg of raw material. The minimum amount of sodium nitrite in sausage forcemeat stimulates the production of the finished product without residual sodium nitrite, which leads to the formation of nitrosoamines as a result of the nitrosing reaction in sausages, which are produced by traditional technology.

The problem of replacement of sodium nitrite by colouring agent is complicated by multifunctional role of nitrite in the production of sausages. Sodium nitrite addition to fixing of color specifically affects on the oxidation and microbiological stability, taste and smell of meat products.

Many researchers prove the ability of nitrites have an inhibitory effect on the development of different types of microorganisms (Salmonella, Staphylococcus aureus, fungi) and toxin production, in particular, the accumulation of aphphtolotoxin.

At present it is impossible completely eliminate use of nitrites in the technology of boiled sausages because of their inhibitory effect on microbial growth. There is necessity for researches to reduce the dosage of nitrites in sausages to the level which provides antibacterial activity of nitrites.

Bacteriological indices of boiled sausages of highest and first-rate quality were investigated. Sodium nitrite (1…1,5 mg%) in combination with the colouring agent from the blood of slaughtered animals – carboxyyn in an amount of 1,5…3% by weight of minced meat was used as color maintenance component. It allows reducing the traditional dose of nitrites in 3,5…4,5 times.

The level of sodium nitrite replacement by colouring agent from the blood of slaughtered animals is established, it allows producing of boiled sausages which meet sanitary requirements according to bacteriological indices.
Keywords: boiled sausages, carboxyn, bacteriological indices, sodium nitrite, microbial number, colibacillus, Proteus, microflora.