

ABSTRACT

The goal of the research presented in the study is to determine properties of the model finely ground processed meat with a reduced share of sodium nitrate (III) with addition of colouring health-promoting substances.

The experiment was conducted in two stages. In the first stage, model products with thirteen different dye additives were rated. The amount of used dye additives ranged from 0.025% to 5%. In addition, the pH value and the cooking loss of the model products were measured. In the second stage, one from the model products was selected for the further study that characterized by high quality fulfilling the assumptions of the experiment. It was a product containing 0.025% of lycopene, which was subjected to detailed examination. Changes of the pH value of the raw material and the final product, amount of the cooking loss, changes in the colour parameters, the degree of heme pigments, changes in the content of nitrates (III) and microbiological changes that occur after the refrigeration storage were determined.

It was found that the model finely ground processed meat with a reduced share of sodium nitrate (III) containing lycopene characterized by stable colour with a high saturation. Analysis of the degree of heme pigments of the model proved that the addition of lycopene is beneficial for the colour formation.

At the same time it was observed that a lower amount of the introduced nitrate (III) gave a lower amount of the residue of nitrates (III). Microbiological assessment has confirmed that the reduction of the sodium nitrate (III) to 0.4% in the production of the model finely ground processed meat does not affect the deterioration of the quality of these products.