Study of changes of the physical-chemical and microbiological parameters under extending fresh meat shelf life by cooling

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An issue of food quality and safety is inseparable from human health. Nowadays it is an actual problem to prolong the keeping process of perishable food in raw condition, especially, this is difficult for meat. For this purpose, many different strategic or technologies are being researched. Although there isn't any effective or economically realized technology because of different causes. Nowadays, the most perspective way is treatment cooled meat with organic acids for decrease or braking development of pathogens and accordingly, for prolongation of shelf life. So, using natural bacteriostatic ingredients against meat spoilage bacteria seems perspective.

The research foresees of beef treatment with organic acids for study influence on physical - chemical and biochemical properties, established their bactericide affectivity, active concentrations and combinations, their qualitative bacteriostatic spectrum and quantitative designators.

The research includes determination of antioxidant activity, which implies definition of the enzymes - catalase and superoxide-dismutase. Also, it includes determination of malondialdehyde (MDA), ammonia and hydrogen sulfide in treatment with different organic acids (citric acid, oxalic acid, malic acid) cold meat.

The data shows, that the organic acids prolong shelf life of meat and do not change its quality. Based on received data, technology for prolongation of shelf life of chilled meat, based to process meat by citric acid, before chilling, has elaborated and a probated in the industry.