INNOVATIVE FISH DRIED TECHNOLOGIES

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Abstract

This paper makes analyses of the Innovative technologies of fish products. On this case, drying, which is associated with the use of air ions, which are widely used in numerous sectors of the national economy was discovered. Hence, it has concluded that ionized air exhibits a bactericidal and preservative effect, which contributes to the production of good quality products and ensures its safety for long-term storage

Keywords

Innovation, technology, products, drying, ions, national economy, exhibitions

Introduction

Innovative technologies of fish products, including drying, are associated with the use of air ions, which are widely used in numerous sectors of the national economy [1]. It has been established that ionized air exhibits a bactericidal and preservative effect, which contributes to the production of good quality products and ensures its safety for long-term storage [2,3].

Sun-dried fish is in great demand among the population of Ukraine and other countries of the world. Drying technology is a traditional way of preserving fish, in which there is dehydration of raw materials, changes in the primary structure and properties, maturation and drying. In the world there are various ways of dried fish. First of all, it is drying in natural conditions, when a certain temperature and air flow contribute to the loss of moisture, activation of muscle tissue enzymes and its maturation - the acquisition of a "bouquet" of taste, aroma and structure of the product. However, the use of drying in natural conditions is seasonal in nature, which significantly limits the use of this method. In industrial conditions, convection dryers are used when the moisture of the raw materials is removed by a heated drying agent. In this case, the drying agent has a temperature of 80-100 ° C, which does not contribute to maintaining the biological value of the protein and lipid components of the muscle tissue of fish. Infrared dryers also have high temperatures, which reduce the nutritional value of the final product.

Methodology

One of the promising methods of jerking fish is the use of aeroionic processing of raw materials. Previous studies have shown that ion treatment with atmospheric gases (aero ions) can reduce raw material costs and ensure long shelf life without compromising organoleptic characteristics, biological value and safety.

Main part

Based on the mechanisms of interaction of aeroions with biological objects, an innovative technology of food preservation was proposed - electron-ion technology or electro-antiseptic. It is based on the targeted influence on food raw materials of negatively charged electrons, ions and active particles (excited atoms and molecules), which are formed as a result of artificial ionization of air by radioactive isotopes, an electric field or electric discharges. In electrical discharges, ozone is formed simultaneously with air ions, which is a strong oxidizing agent and has a pronounced bactericidal effect. Thus, conditions are provided for maintaining the biological value of the final product and its safety. The safety of the product's quality and safety is also facilitated by the neutral components of ionized air - nitrogen dioxide, which is formed in small quantities during air ionization [4]. The selection of ionization modes in the technology of dried fish provides the opportunity to establish optimal conditions for the bactericidal action of aeroions on the pathogenic microflora of raw materials and products, as well as stimulate the maturation of the product and ensure its safety during transportation and storage. It should be noted that aeroionic technologies make it possible to ensure stabilization of product quality with minimal energy consumption and the complete absence of negative environmental impact.

Based on preliminary studies, it is shown that the use of aeroionic technologies when drying fish allows accelerating the dehydration of raw materials, ensuring uniform redistribution of fat in muscle tissue and accelerating maturation. Modes of aeroionic processing of raw materials in the technology of drying should be optimized for each type of fish, and the technology itself is a promising area of innovative technologies for fish products.

Findings.

The analysis of literature data and the results of our own studies have shown the promise of using aeroionic technologies for dried fish, which can save the biological value of protein and lipids of raw materials and ensure the safety of products during transportation and storage.

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