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IMPROVING THE TECHNOLOGY OF MEAT SLICED SEMI-FINISHED PRODUCTS ENRICHED WITH MICRONUTRIENTS AND MINERALS

In recent years, the global market for new technologies and food products has seen a trend towards an increase in the number of qualitatively new products designed to prevent and treat various diseases, strengthen body defenses and reduce the risk of exposure to toxic compounds and unfavourable environmental conditions. Under market conditions, the dynamic development of the food industry is carried out mainly by the introduction of new intensive low- and zero-waste technologies and the production of health and preventive food products based on them. Of particular concern is the lack of essential micro- and macronutrients in the diet, which causes such serious diseases as iron deficiency anemia, rickets, osteoporosis etc. [3, 4].

The problem of calcium deficiency in the daily human diet has become quite relevant. This is primarily due to the excessive phosphorus content in most food products – meat ones in particular, as well as because of the wide use of phosphates in the processing of food raw materials [1, 2].

Calcium supply is determined not so much by its absolute amount in the body as by its ratio to other nutrients: proteins, fats, carbohydrates, minerals, and, above all, phosphorus.

Taking into account the modern requirements of nutrition and the current economic situation in Ukraine, due to the use of the latest technology, we actively search for and develop new recipes for meat products with a specified chemical composition, which would be balanced in terms of protein, fat and carbohydrates, water, minerals and vitamins.

In this regard, there arises a need to improve the technology of semi-finished meat products enriched with essential nutrients, namely calcium lactate. There is no information in the academic literature on the use of calcium lactate in the composition of meat sliced products.

Based on the above, the improvement of the technology of meat semi-finished products with calcium lactate aimed at ensuring high quality and biological value of sliced masses, as well as the rational use of raw materials, is relevant, timely and complies with the state policy of Ukraine on healthy nutrition of the population.

The aim of the study is scientific substantiation and improvement of the technology of meat sliced semi-finished products enriched with micronutrients and minerals.

The object of research is the technology of meat sliced semi-finished products using calcium lactate.

The subject of the work is calcium lactate, model minced meat masses and sliced semi-finished products based on them.

Physicochemical, microbiological, structural and mechanical, organoleptic methods were applied in the study, along with mathematical processing of experimental data using modern measuring instruments and techniques.

For the first time, on the basis of theoretical and experimental studies, the possibility of improving the technology of meat sliced semi-finished products by using calcium lactate has been justified.

The effectiveness of adding calcium lactate in order to increase the content of organic calcium in meat sliced semi-finished products has been theoretically substantiated and experimentally confirmed. The organoleptic and physicochemical quality parameters of the finished product have been investigated.

New recipes for sliced semi-finished products on the basis of minced meat masses have been developed.

The existing technology of sliced semi-finished products using calcium lactate has been improved.

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NEW APPROACHES AND PROCEDURES IN CANCER TREATMENT. CURRENT PERSPECTIVES ON THERMAL ABLATION

The basic cancer treatment modalities include surgery, radiation therapy, chemotherapy, and targeted therapy, which can further include gene expression modulators, immunotherapy, angiogenesis inhibitors, hormone therapy, and so on [9]. However, there are more recent methods that have emerged not long ago, and the aim of this paper is to discuss some of them.

Ablation is a treatment technique that destroys tumors without removing them. It is mostly indicated for small-size tumors (less than 3 cm) and the surgical option is contraindicated. Ablation is also used with embolization for larger tumors. However, this technique might not be indicated for treating tumors near major blood vessels, the diaphragm, or major bile ducts due to destroying some of the normal tissue around the tumor [3].

The technique of thermal ablation involves extreme hyperthermia or hypothermia to destroy tumor tissue concentrating on a focal zone in and around the tumor. Similar to surgery, thermal ablation removes the tumor and a 5–10 mm thick margin of seemingly normal tissue but the tissue is killed in situ and then absorbed by the body later. The procedure is similar to surgery using an open, laparoscopic, or endoscopic approach but is commonly applied using a percutaneous or non-invasive approach. The type of tumor, site, physician's choice, and health status of the patient determine the approach to treatment [8].

Radiofrequency ablation (RFA), microwave ablation, high-intensity focused ultrasound, and cryoablation are currently being used in the clinical setting. Cryoablation