ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-5206, Impact Factor: 12,23

American Academic publishers, volume 05, issue 12,2025

Journal: https://www.academicpublishers.org/journals/index.php/ijai

RESEARCH ON THE TECHNOLOGY OF DIETARY SAUSAGE PRODUCTION

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Annotation. The increasing demand for healthy eating creates the need to improve the production technologies of dietary products in the meat industry. Dietary sausage products are characterized by a reduced fat content, the use of raw materials with high biological value, and enrichment with nutritional components beneficial to the body. This study studies the main stages of the technology of dietary sausage production and their impact on product quality. The influence of raw material selection, minced meat preparation, salting process and heat treatment regimes on the structure and nutritional value of dietary sausages is analyzed. Also, the possibilities of using protein and fiber food additives to reduce fat content are considered. Based on the results of the research, ways to improve juiciness, mechanical stability and organoleptic characteristics of dietary sausage products are identified. This work serves as a scientific basis for the production of competitive dietary sausage products that meet health protection requirements and modern consumer needs.

Keywords: dietary sausage, healthy nutrition, meat product technology, fat reduction, food additives, biological value, heat treatment.

Today, the increasing attention of the population to a healthy lifestyle poses new challenges for the food industry. In particular, the demand for dietary products with a low fat content and a balanced nutritional composition is increasing significantly. Among meat products, sausages are a widely consumed food type, and their production in a dietary form requires modern technological approaches. Therefore, it is important to study the technology of dietary sausage production on a scientific basis.

Traditional sausages are often characterized by high fat content and energy value. This creates restrictions for some consumers, including those prone to cardiovascular diseases or those who adhere to a healthy diet. The main problem in creating dietary sausages is to reduce the fat content while maintaining the taste, texture and technological stability of the product. The selection of raw materials and processing processes play an important role in solving this problem.

In the production of dietary sausages, low-fat meat types are widely used, for example, poultry products or lean beef. Also, protein-rich and fiber-rich nutritional supplements increase the biological value of the product and improve its structure. In technological processes, the stages

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of minced meat preparation, salting, grinding and heat treatment require special attention, since these stages determine the final quality of the product.

Today, in the production of dietary sausage products, it is possible to ensure product safety and extend the shelf life by using innovative technologies and modern equipment. At the same time, limiting the use of artificial additives and giving priority to natural components serves to increase consumer confidence. It is important that dietary sausage products are not only low in calories, but also have functional properties.

This article discusses the main aspects of dietary sausage production technology, the principles of raw material selection and the impact of technological processes on product quality from a scientific point of view. The results of the research will serve to produce dietary sausage products that meet the requirements of healthy nutrition, are competitive and useful for consumers.

The success of dietary sausage production primarily depends on the quality of raw materials. One of the most important factors determining the quality of the product is the fat content, protein content and biological value of the meat. Low-fat beef, poultry or mutton are ideal for dietary sausages. Also, when choosing raw materials, special attention is paid to their freshness, microbiological purity and lack of physical damage. High-quality raw materials create good adhesion during the preparation of minced meat, which helps to preserve the structure and juiciness of the sausage.[1]

Along with raw materials, additives used in the preparation of dietary sausages are also essential for quality Ita has an effect. Natural additives rich in protein and fiber provide the elastic structure of the product, increase its water retention capacity and reduce shrinkage of the product during cooking. At the same time, aromatic and natural coloring substances improve the organoleptic properties of the product.

The process of preparing minced meat is one of the main stages of dietary sausage technology. Raw meat is processed in special grinders and brought to a homogeneous structure. At this stage, raw meat and additives are mixed evenly, resulting in a strong sausage structure. Maintaining a moderate amount of water in the minced meat ensures juiciness and softness of the product.[2]

The salting process determines the taste and shelf life of the product. When the salt content is moderate, it limits the development of microorganisms and encourages the formation of networks of meat proteins. Normalizing the amount of salt in the production of dietary sausages is especially important, since excess salt can be harmful to the health of consumers. At the same time, the addition of additional natural antiseptics and nutrients increases the stability of the product.

Heat treatment is an important stage in the production of dietary sausages that ensures structure, juiciness and safety. Sausage minced meat is cooked at a certain temperature and duration or steamed. The optimal heat regime prevents the product from becoming too hard and allows the preservation of biologically useful substances.[3]

It is recommended to use energy-saving and gentle heat methods in the production of dietary sausages. This not only increases the quality of the product, but also reduces energy costs in the

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production process. At the same time, heat treatment destroys microorganisms in the sausage, ensuring product safety.

There are a number of technological approaches to improving the quality of dietary sausages. Adding protein and fiber-rich additives, ensuring a natural balance with sugars and flavorings improves the structure of the product. At the same time, water-retaining substances create an optimal environment in the minced meat, reducing product shrinkage during cooking and storage.[4]

Another important aspect is to improve the organoleptic properties of the product. Dietary sausages should have a natural color, pleasant taste and aroma, and be well accepted by the consumer. For this purpose, it is important to correctly select raw materials and additives, and perfectly implement technological processes.

The production of dietary sausages from local raw materials allows to reduce production costs, save energy and resources. At the same time, the creation of a natural and healthy product not only satisfies consumer needs, but also ensures environmental sustainability.[5]

Innovative technologies and optimized processes increase the competitiveness of dietary sausage production.

The results of the study show that the perfect implementation of dietary sausage production technology allows to obtain high-quality and healthy products. The selection of local and low-fat raw materials, optimization of the processes of minced meat preparation, salting and heat treatment directly affect the organoleptic properties, structure and shelf life of the product. The use of nutritional additives rich in protein and fiber increases the juiciness and elasticity of sausages, while maintaining their biological value.

Through the production of dietary sausages, it is possible to create high-quality and energy-standard products, serve healthy nutrition and meet consumer demand. At the same time, the use of local raw materials reduces production costs and ensures environmental sustainability. The results of the research create a scientific basis for the production of dietary products in the modern meat industry and expand the possibilities of creating competitive products.

References

1. O‘zbekiston Respublikasi Qishloq xo‘jaligi vazirligi. Go‘sht mahsulotlarini ishlab chiqarish bo‘yicha texnologik yo‘riqnoma. – Toshkent, 2022. – 102 bet.

2. Qodirov M.S., Karimova D.N. Parhezbop oziq-ovqat mahsulotlari ishlab chiqarish asoslari. – Toshkent: Iqtisodiyot nashriyoti, 2020. – 198 bet.

3. Rahmonov B.T. Go‘sht mahsulotlarini qayta ishlash texnologiyasi. – Samarqand: Universitet nashriyoti, 2021. – 184 bet.

4. Xudoyberdiyev S.A. Go‘sht va qandolat mahsulotlarining sifatini baholash. – Toshkent: Innovatsiya, 2018. – 165 bet.

5. Abdullayev A.X. Go‘sht mahsulotlari texnologiyasi. – Toshkent: Fan va texnologiya, 2019. – 312 bet.