AMERICAN JOURNALS
Open Access, Peer Reviewed Journals

American Journal of Pedagogical and Educational Research
ISSN (E): 2832-9791| Volume 14, | July, 2023

CHEMICAL COMPOSITION AND NUTRITIONAL VALUE OF MINCED MEAT

Eshmuratov Marat Tangatarovich
Assistant Professor of the Department of Chemical Technology Karakalpak State University

Djuldasbaeva Azada Oktamovna
3rd Year Student of Berdak Karakalpak State University,
Faculty of Chemical Technology, Department of Food Technology

A B S T R A C T	K E Y W O R D S
In this article we will talk about the structure of meat and meat products. The preparation of meat and milk, as well as their processed products, are of great importance in people's daily lives. In the rational nutrition of people there are no products that replace them. Consequently, the demand and demand for meat, milk and products from them is growing every day.	Meat, food, Proteins, fats, carbohydrates.

Introduction

The preparation of meat and milk, as well as their processed products, are of great importance in people's daily lives. In the rational nutrition of people there are no products that replace them. Consequently, the demand and demand for meat, milk and products from them is growing every day. Thanks to the appearance of a large number of farms and personal subsidiary farms in the republic, some positive results have been achieved in recent years in providing our people with meat, milk and products from them.

One of the main branches of the food industry of our country is meat and dairy. The role of livestock breeders and technologists in this matter is significant.

Since meat and meat products contain a large amount of high-grade valuable proteins, it is extremely important and necessary for the human body. No food product replaces meat in providing the human body with energy and plastic substances. It is also an important source of energy, since meat protein contains many times more vegetable proteins. *Consequen*tly, its role in the human diet is high.

It is known that meat contains important elements in the finished form. Consequently, they are involved in the process of metabolism in the human body.

According to the data, meat plays an important role in the growth and development of the brain. Proteins, fats, carbohydrates, mineral salts and vitamins contained in animal products are of great importance for maintaining the health, endurance and strength of each person as a whole.

Sausage, which is a meat product, is in great demand among the population. Currently, a variety of sausages can be found in all grocery stores and supermarkets in elegant packaging. In each outlet

under the name of different manufacturers, hot dogs, sausages, smoked meats are presented in a wide assortment. For a buyer who has seen such a variety, choosing one of them becomes a difficult task.
The production of sausage products occupies one of the highest places in the food industry, because the technology of cooking gastronomic products is quite complex and requires a high level of training of special devices and personnel.
Since the first years of independence, food security issues have become one of the priorities of Uzbekistan's socio-economic policy. As a result, the production and processing volumes of the main types of food per capita-grain, meat, milk, eggs and fruit and vegetable products - have sharply increased, and, as a result, the production of all the main types of food in the country itself has been almost completely ensured, food independence and security in our country have been achieved.
This has become one of the greatest achievements of Uzbekistan during the period of independence. Because without achieving food independence and security, it is impossible to achieve literal independence in the political sphere.
The state association "uzgoshtsutsanoat " on the basis of further stabilization of the financial and production activities of the joint-stock companies "Tashkent Sht " and"Tashkent Sht", increasing their efficiency, broad attraction of foreign investment in the industry and the creation of joint ventures for the production of competitive and high-quality meat and dairy products "ensures uninterrupted supply of meat and dairy products to the population of Tashkent city July 2, 1999 G., No. 323.
According to it, in order to reduce prices for finished meat and dairy products, powdered milk, minced meat, sausage products and hot dogs are imported to the meat and dairy plants of the state association "Uzgoshtsutsutoat", wholesale trade enterprises selling spices and other auxiliary materials used for the production of meat and dairy products are allowed to allocate a separate line from July 1, 1999 the value added tax paid by them when importing the above-mentioned goods into the territory of the republic, taking into account the amounts, specified in the calculation of value added tax for manufactured food products. to give.
In addition, the Council of Ministers of the Republic of Karakalpakstan, the regional khokimiyats, the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan provided cattle, meat and grain to the Union of Peasant and Farm Enterprises, joint-stock companies "Tashkent sht" and "Tashkent sht", as well as Bordeaux farms of the Tashkent region of the state association "Uzgoshtsutsanoat". and for the supply of milk and its processing, as well as for the supply of these products to Tashkent, to provide residents and other consumers of the city with practical assistance in concluding purchase and sale agreements.
It was noted that the decision of President Islam Karimov dated March 30, 2011 “on reforming the structure and improving the efficiency of the Association” Uzulgurgisavdoinvest is an important factor in the more active organization of enterprises and organizations in the system, filling domestic consumer markets with products grown by our farmers, farmers and entrepreneurs, organizing their trade and increasing export volumes.
It is also important that dozens of livestock farms have been created in order to increase food supplies. These farms breed cattle and sheep, as well as chickens. This helps to reduce the cost of food, while meeting the demand of the population for meat, dairy and egg products.
In addition, 500 thousand tons of meat stocks have been harvested in Uzbekistan.

It was noted at the conference that the main task is to ensure the uninterrupted supply of socially significant and other products to the population of the republic, increase food stocks through the cultivation, processing of agricultural products and ensuring the safety of the consumer market.

In order to further accelerate the implementation of reforms in the industry, on October 31, 2011, the decree of the President of the Republic of Uzbekistan "On measures to further improve the organization of management and development of the food industry of the Republic in 2012-2015" was adopted. According to it, in order to ensure food security and ensure uninterrupted and sufficient food supplies for consumption by the population for 2012-2015, it is planned to implement investment projects at 312 enterprises for processing fruit and vegetable, meat and dairy products. Including the planned construction of 169 new enterprises and the reconstruction and modernization of 143 existing ones. As a result of their implementation, processing capacities of 63.1 thousand tons of fruits and vegetables, 16.5 thousand tons of meat products, 45.7 thousand tons of dairy products will be created in the country.

In the production of raw smoked sausages, beef of the 1st grade (GOST 779-87), separated from the ears, is used as the main raw material.

Depending on the fat content of cattle, beef of 1 and 2 categories are distinguished. Obesity is determined by the degree of muscle development and accumulation of fat deposits in the body.

Beef consists of 18.9 – 20.2% protein, 7.0 – 12.4% fat, 67.7-71.7% water. Its color depends on the age, sex of the mole and its breed. Relatively hungrier muscles are found in the hip and back of the mole. Beef is characterized by relatively large grain size and pronounced marbling, that is, the presence of layers of adipose tissue on the surface of the cross-section of the muscles. Relatively darker muscles are located in the cervical and scapular parts of the mole. The oily consistency has a firm crumbly consistency and is colored in various shades of light yellow: from yellowish-white to intense yellow. Beef fat has a characteristic pleasant smell.

Meat is a multicomponent raw material consisting of a complex of muscle, fat, connective and bone tissues.

Muscle tissue. Muscle tissue proteins are differentiated into sarcoplasmic, myofibrillary and stromal proteins. Most of the muscle tissue proteins are in a well-balanced state in terms of amino acid composition, which causes their high nutritional value, has good solubility, which depends on the degree of severity of technological properties. Therefore, protein substances of muscle tissue determine the state of physico-chemical, technological parameters of raw materials and finished product (humidity, tenderness and yield of the product).

The composition of muscle tissue includes: water, lipids, carbohydrates and extractive substances. Extractive substances and their decomposition products after slaughter of animals are involved in the formation of a specific smell and taste of ripe meat.

Adipose tissue. Adipose tissue is also a type of connective tissue, and the tissue will consist of a significant amount of fat (up to 90%). The composition of adipose tissue includes proteins (0.34 – 7.2%), enzymes, vitamins and minerals. The component of adipose tissue is fat cells. On the other hand, it consists of a thin connective membrane filled with fat and water, enclosed in a shapeless tissue substance. Animal fats will consist of mucus triglycerides. They can be solid, fragrant and liquid. When combined with oxygen in the air, fats will quickly become rancid (become fatty) and acquire an unpleasant taste. Adipose tissue consists of fat-soluble vitamins (A, D, E, K) and minerals (K, Na, Mg, Fe, etc.).).

Nutritional value is characterized by the amount of basic nutrients in meat, organoleptic indicators and includes energy value. The energy value is characterized by the proportion of energy released during the biological oxidation of nutrients, and its use in ensuring the physiological functions of the body.

The higher the nutritional value, the more the amount satisfies the body's nutritional needs. This is necessary for the body to form new structural elements of tissues and cells and replace the old damaged ones.

The composition of meat includes proteins, fats, carbohydrates, water, minerals, vitamins, extractives. Their presence depends on the type, breed, gender, age and obesity of animals.

Squirrels. Proteins in meat are 14-18% (full and incomplete). Defective proteins are proteins containing 8 unsubstituted amino acids that are not produced in the human body and come only from food (valine, tryptophan, leucine, isoleucine, threonine, methionine, lysine, phenylalanine). The bulk of meat proteins are full–fledged proteins. It includes myosin, actin, myogen, myoalbumin, myoglobin, globulin. Myogen, myoalbumin are dissolved in water; myosin, globulin – in saline solutions. Myoglobin-has a dark red hue. The more myoglobin in the muscles, the darker its color. Of the defective proteins, meat contains collagen and elastin. It is the connective tissue that gives the meat rigidity. Collagen, when heated with water, turns into gluten, the pulp softens, gluten is kissed, when dissolved in hot water it gives the solution viscosity, and when cooled it hardens and turns into Ilvira (Jelly, jelly, jelly). Elastin does not change under the influence of cold-hot water.

Oils. Meat contains from 1.2 to 49.3% fat. The amount of fat depends on the type of animal and obesity. Animal fats are high in calories, they are necessary for the absorption of fat-soluble vitamins in the stomach, and these vitamins are contained in themselves. The absorption of fats depends on their melting temperature. Beef is digested by 94%, and pork-by 97%. This property of meat fats is due to the presence of saturated and unsaturated fatty acids in their composition. Fat improves the taste of meat, increases its nutritional value. Cholesterol is a fatty substance in meat, which is contained in an amount of 0.06-0.1%. Cholesterol is considered sufficiently resistant to heat treatment.

Carbohydrates. Meat mainly contains glycogen from carbohydrates. Its amount does not exceed 1%. Carbohydrates are involved in the maturation of meat, the formation of taste and smell, changes in consistency and tenderness.

Vitamins. The vitamins that make up meat are important in the human body. Because they are not produced by the body, but participate in the processes of growth and development occurring in it.

Mineral substances. In meat, minerals are contained in an amount of 0.8 – 1.3%. Of the macronutrients, meat contains sodium, potassium, chlorine, magnesium, calcium, iron and zinc. Trace elements include iodine, copper, cobalt, manganese, fluorine, lead, etc. there is. Their entry into the human body is considered important for its normal development and performance of functions.

Extractive substances. Extractive substances in meat 0.3-0.5%. They occur in the form of nitrogenous and nitrogen-free compounds. Such substances dissolve in water, give a taste, smell to meat, soup and excite the appetite.

The digestibility of nutrients in general depends on several factors: the physico-chemical state (type and structure of protein, the degree of emulsification of fat), the possibility of interaction of components with digestive enzymes, the ratio of the main nutrients – fat, protein, water, the balance of individual amino acids that are not compensated, which leads to the production of gastric juice. the presence of secreted taste and olfactory substances. The quality of the finished product, its nutritional

and biological value are seriously affected by changes in proteins, fats, vitamins, organic and mineral substances during processing.

3. Characteristics of auxiliary raw materials and materials

Auxiliary raw materials in the production of sausages are wheat flour, starch, dried cow's milk, chicken eggs, melange, hydrated soy protein, salt, sugar, black pepper, white pepper, coriander, fresh garlic, nutmeg, cardamom, sweet peas, sodium nitrite, water. Such raw materials improve the taste qualities of sausage products, increase their nutritional value.

Dried cow's milk (GOST 10970) is a homogeneous powder with a fine dry yellowish-white tint. In powdered milk, the moisture content is not more than 7%, fat is not more than 2.5% and protein is not less than 25%.

Melange is a mixture of frozen protein and egg yolk containing about 12-13% protein, at least 10% fat and up to 75% moisture. Its color is pale yellow or light fiery, the consistency (after thawing) is a homogeneous liquid, the smell and taste are ovoid, without foreign smell and taste. Egg melange is stored at a temperature of -5 ℃ -6 ° C for up to 8 months. The use of melange allows to increase the biological value and functional and technological properties of products (water-binding and emulsifying ability, viscosity and viscosity, etc.).) allows to improve.

Iodized table salt (Uzdst 1091). Mainly boiled or crushed, crushed No. 0, 1 and 2, grades not lower than 1 are used. The salt must be nutritious and meet the standard requirements for the corresponding table salt of the highest or first grade, that is, the highest grade must be white, and the 1st grade-yellow, without extraneous taste and the smell. The moisture content is not more than 0.5%. Storage conditions up to 3 years in rooms with a relative humidity of not more than 75%.

Sugar (GOST 31361). It should be homogeneous, not stick to crystals, have a white luster, good dispersibility and completely soluble in water. Sugar should be stored in dry, clean, slightly ventilated rooms, as well as in rooms with a relative humidity of no more than 70%, since it easily absorbs odors. Sugar softens the pronounced salty taste of meat products, participates in the process of forming the color of products.

Ground black pepper (GOST 29050), powder of dark gray color, has a characteristic smell and a sharp bitter taste of pepper. This is due to the fact that it contains the alkaloid piperine, the content of which reaches 4 – 7.5%. The pleasant smell is due to the presence of volatile essential oils up to 1.5%, humidity up to 12%, total ash 6%.

Harmodium fragrant ground (GOST 29045). An immature dried fruit of a plant belonging to the myrtle family. Thanks to essential oils, aromatic Harmodium has a strong sweet aroma and a sharp pleasant and insidious effervescent taste. Among the essential oils there is a large amount of eugenol (60-80%). Humidity should not exceed 12%, total ash content - less than 6%.

Ground nutmeg (GOST 29048). This is the dried and peeled seed of the fruit of the nutmeg tree, separated from the peel. Camphene contained in nutmeg has a very strong aroma and effervescent taste due to the essential oil (up to 80%).

Sodium nitrite (GOST 4197), is a white or yellowish-white crystal. It is used when salting meat to preserve its color during subsequent heat treatment. The enterprises receive sodium nitrate in packages of up to 3 kg. In the workshop, it is allowed to use an aqueous solution of sodium nitrite with a concentration of no more than 2.5% according to the recipe.

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