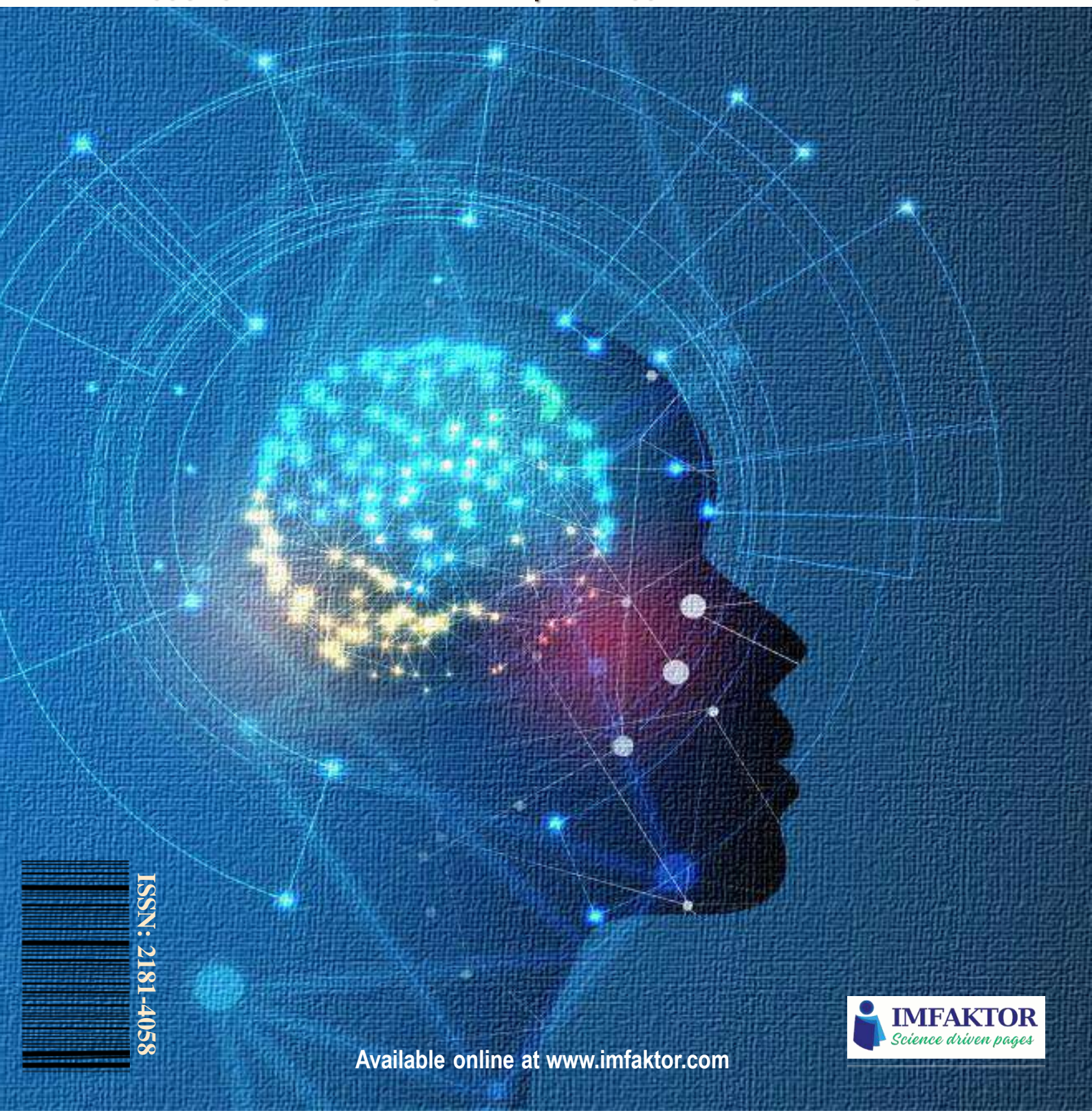


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# ТАДҚИҚОТ ВА ИННОВАЦИЯЛАР ЖУРНАЛИ

ЖУРНАЛ ИССЛЕДОВАНИЯ И ИННОВАЦИИ | JOURNAL OF RESEARCH AND INNOVATIONS

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## STUDY OF THE BENEFITS AND ROLE OF MINERALS IN THE COMPOSITION OF THE FINISHED PRODUCTS FROM LOCAL RABBIT MEAT

### ANNOTATION

Minerals participate in all biochemical processes occurring in the body, determine the state of the blood coagulation system and muscle contractions, and are a necessary component of all organs and tissues. They enter the body only with food and are therefore essential components of nutrition. Minerals enter the body mainly through food. In total, more than 60 chemical elements are actively absorbed in the human body. They are responsible for various biological functions, and their deficiency leads to serious diseases.

Rabbit meat is white meat that contains macronutrients and microelements and is a good source of minerals entering the human body - it is a food product of plant and animal origin. The mineral composition of rabbit meat is practically incomparable with any other meat. Thus, rabbit meat contains significantly more minerals than beef, lamb, and pork. It contains a lot of iron, phosphorus and cobalt, and sufficient quantities of magnesium, manganese, fluorine and potassium. Rabbit meat products have a positive effect on the human body and provide energy, protein and minerals.

**Key words:** rabbit meat, vegetable oils, antioxidants, mineral content, energy value.

## ИЗУЧЕНИЕ ПОЛЬЗЫ И РОЛИ МИНЕРАЛОВ В СОСТАВЕ ГОТОВОЙ ПРОДУКЦИИ ИЗ МЕСТНОГО МЯСО КРОЛИКА

### АННОТАЦИЯ

Минералы участвуют во всех биохимических процессах, происходящих в организме, определяют состояние свертывающей системы крови и мышечных сокращений, являются необходимым компонентом всех органов и тканей. Они попадают в организм только с пищей и поэтому являются важными компонентами питания. Минералы поступают в организм преимущественно через пищу. Всего в организме человека активно усваивается более 60 химических элементов. Они отвечают за различные биологические функции, а их дефицит приводит к серьезным заболеваниям.

Мясо кролика – белое мясо, которое содержит макронутриенты и микроэлементы и является хорошим источником минеральных веществ, поступающих в организм человека, – это пищевые продукты растительного и животного происхождения. Минеральный состав мяса кроликов практически несравним ни с каким иным мясом. Так, в крольчатине содержится минеральные вещества значительно больше, чем в говядине, баранине, свинине. Много в нем железа, фосфора и кобальта, в достаточном количестве имеется магния, марганца, фтора и калия. Продукты из мяса кролика положительно влияют на организм человека и обеспечивают энергию, белок и минералы.

**Ключевые слова:** мясо кролика, растительные масла, антиоксиданты, минеральные вещества, энергетическая ценность.

## MAHALLIY QUYON GO'SHTIDAN TAYYOR MAHSULOTLAR TARKIBIDAGI MENERALLARNING O'RNI FOYDALARI TADQIQOTI

### ANNOTATSIYA

Minerallar organizmda sodir bo'ladigan barcha biokimyoviy jarayonlarda ishtirok etadi, qon ivish tizimining holatini va mushaklarning qisqarishini belgilaydi va barcha organlar va to'qimalarning zarur tarkibiy qismidir. Ular tanaga faqat oziq-ovqat bilan kiradi va shuning uchun ovqatlanishning muhim tarkibiy qismlari hisoblanadi. Minerallar tanaga birinchi navbatda oziq-ovqat orqali kiradi. Hammasi bo'lib 60 dan ortiq kimyoviy elementlar inson tanasida faol so'riladi. Ular turli biologik funktsiyalar uchun mas'uldirlar va ularning etishmasligi jiddiy kasalliklarga olib keladi. Quyongoshti makroelementlar va mikroelementlarni o'z ichiga olgan oqgosht bo'lib, inson tanasiga kiradigan minerallarning yaxshi manbai hisoblanadi - bu o'simlik va hayvonlardan olingan oziq-ovqat mahsulotidir.

Quyongoshtining mineral tarkibi boshqa gosht bilan deyarli taqqoslanmaydi. Shuningdek, quyongoshti molgoshti, qozichoq va cho'chqa goshtiga qaraganda sezilarli darajada ko'proq minerallarni o'z ichiga oladi. Uning tarkibida juda ko'p temir, fosfor va kobalt, etarli miqdorda magniy, marganets, ftor va kaliy mavjud. Aynan quyongoshtidan tayyorlangan mahsulotlar inson organizmiga ijobiy ta'sir ko'rsatish bilan birga energetic quvvat, oqsil hamda minerallar bilan to'yintirib beradi.

**Kalit so'zlar:** quyongoshti, o'simlik moylari, antioksidantlar, minerallar, energiya qiymati.

In recent years, much attention has been paid to the influence of diet on human health and well-being. The primary role of diet is to provide sufficient nutrients to meet the nutritional requirements of an individual. There is now increasing scientific evidence to support the hypothesis that some foods and food components have beneficial physiological and psychological effects over and above the provision of the basic nutrients.

Many traditional foods contain components with potential meat quality and safety 1289 health benefits. In addition to these foods, new foods are being developed to enhance or incorporate these beneficial components due to their health benefits or desirable physiological effects. The healthy lifestyle and healthy food are a hot topic of human's everyday life, containing the area of production and raw materials processing, distribution, and consumption [1].

We do canned products as a pate and stew-based rabbit meat and adding antioxidants in our laboratory condition. Pate a shell of mostly cylindrical dough for spicy stew, a dish of minced meat, baked in a shell of dough or served in a terrine an exquisite snack dish in the form of viscous homogeneous pasty mass of boiled or fried and then pureed meat. After producing product has given following results of mineral substances from the content of finished products-based rabbit meat.

Chromatography is a physicochemical separation, that is, a method for determining substances in a mixture, based on the separation of components into two immiscible phases-stationary and mobile. The stationary phase is a solid (often called a sorbent) or a liquid film deposited on an inert solid. The mobile phase is a liquid or gaseous substance passing over the surface of the stationary phase.

In chromatography, the mixture to be analyzed moves through a stationary phase along with a mobile phase. It is usually (but not always) placed in a glass (or metal) tube called a column. Depending on the force of interaction with the surface of the sorbent (due to adsorption or other mechanical force), the components move in the pipeline at different speeds. Components with a high reaction to the sorbent remain in the upper layer of the column, components with a low reaction remain in the lower layer, and some leave the column along with the mobile phase. This way the mixture is separated into its components.

Unlike other methods based on the separation of components into phases, chromatography is a dynamic method that provides several repetitions of the sorption-desorption process of the separated components in a mobile phase flow. This repeated repetition provides higher efficiency than other methods of static sorption and extraction, so chromatography allows you to quickly separate complex mixtures with chemically similar components. The advantages of chromatography are versatility, speed and high sensitivity [2].

We determined magnesium from the finished product from meat that turned out to be stew and pate. The objects of the study were experimental versions of recipes for canned rabbit meat and ingredients of plant origin: olive cake, amaranth cake, pumpkin oil (Table 1).

*Table 1 Composition of components in the recipe of experimental options for meat-containing canned food, wt (%)*

*Table 1*

Ingredient name	The percentage of ingredients in the recipe (%)		
	Option 1	Option 2	Option 3
Rabbit meat	70	70 g	70 g
Olive cake			20
Amaranth cake		20	
Pumpkin oil	8,5	8,5	8,5
Salt	1,5	1,5	1,5

Canned food occupies a significant share among products for people. Their technology is distinguished by high requirements for the quality of raw materials, softer heat treatment modes, elimination of its direct contact (at different stages of its processing) with air oxygen, as well as the possibility of balancing the chemical composition of the finished product by introducing natural biologically active products into the formulation. When developing the production technology, modern principles of the complex use of raw materials were implemented in the design of multicomponent food systems for targeted purposes. The technological scheme for obtaining meat-containing canned food for children [3].

Figure.1. Magnesium content by chromatographic method is a chart based on the values presented in the diagram below.

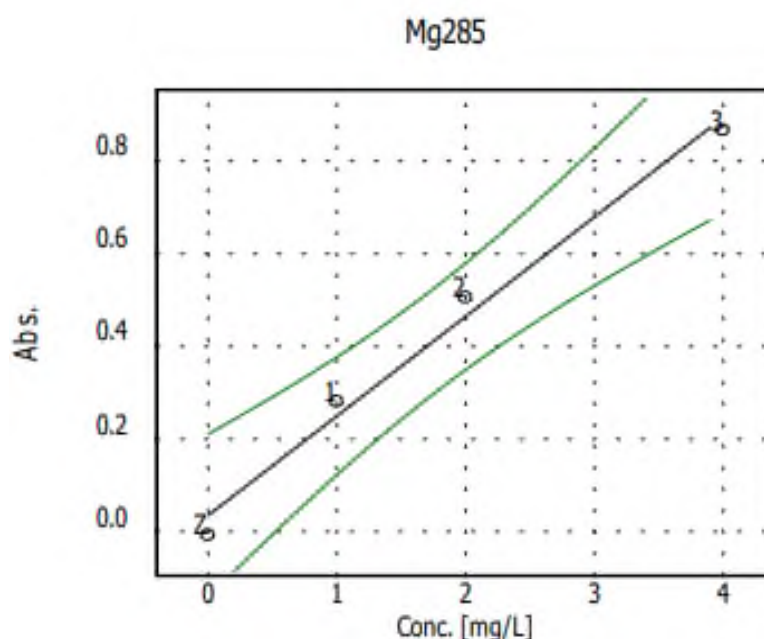


Table 2. Mineral substances in the canned food from rabbit meat

Table 2.

Minerals	Authorized document	Stew	Pate 1	Pate 2
Copper	USSR EH 14084-2014	11,32	13,41	13,48
Zinc	USSR EH 14084-2015	24,11	20,15	19,74
Iron	USSR EH 14084-2016	26,77	34,96	52,9
Sodium	USSR ISO 8070/IDF 119	404,4	395,7	420,5
Potassium	USSR ISO 8070/IDF 119	3469,9	3512,4	3387,4
Calcium	USSR ISO 8070/IDF 119	41	116	64,95
<b>Magnesium</b>	<b>USSR ISO 8070/IDF 119</b>	<b>268,4</b>	<b>225,7</b>	<b>163,6</b>

The obtained data and their analysis made it possible to choose the most optimal option for canned food, which will be in demand and competitive in relation to other types of products in the assortment group. Based on the results of the above analyzes we can say that to improve the special tenderness and moisture-binding ability of functional and technological properties, non-traditional additives are used in minced rabbit, such as amaranth flour and olive oil. The cake gave good results in the production of food pies from ring meat.

As well as enriching the pate with non-traditional oils rich in unsaturated fatty acids. The product will serve those who suffer from blood cholesterol, as well as diabetes, including maintaining energy balance. So magnesium, when tested as a mineral substance, has a large amount in food products, and also provides high energy value for both adults and children.

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