

### MINERALS IN FOOD

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#### Abstract:

This article provides brief information about the minerals contained in food products and examines the effect of these minerals on the human body, their benefits and needs.

**Keywords:** minerals, origin, air, mineralization, human body, quantity.

#### Introduction

After burning food products of animal and agricultural origin, the compounds remaining in the form of ash are called minerals. Minerals in the composition of food products in the form of inorganic compounds - in the form of salts, that is, salts of sodium, potassium, calcium, phosphoric acid, or in the form of organic compounds.

Minerals are essential for human, animal and plant life. All physiological phenomena occurring in living organisms are directly related to minerals.

Plastic phenomena in the human and animal body, the formation and drying of tissues, water metabolism, maintenance of normal osmotic blood pressure, acid-base balance of the body balance, etc. Menstruation takes place with the help of microorganisms.

As a person ages, mineralization in the body increases. For example, 34 g of mineral matter per kilogram of body weight of a newborn child is 43 g or more in adults. More than 70 minerals have been found in humans and animals. Most enzymatic processes take place in the presence of minerals.

Macronutrients include potassium, sodium, calcium, magnesium, phosphorus, chlorine and sulfur. Their amount in 100 g of the product is contained in the amount of several ounces and one hundred milligrams. Trace elements are present in the body in amounts from several micrograms to several 100 micrograms. Trace elements are conditionally divided into 2 groups: absolute or vital (cobalt, iron, copper, zinc, manganese, iodine, bromine, fluorine) and probable necessary (aluminum, strontium, molybdenum, selenium, nickel, vanadium, etc.). Vital trace elements are such substances, the lack of which disrupts the normal functioning of the body. The most deficient minerals in the human diet include excess calcium and iron, sodium and phosphorus. With a lack of these elements, the Swarm gives the following changes:

Ca.....slows down the development of the skeleton;

Mg.....Muscle activity is impaired;

Zn.....Damages the skin, slows down growth;

I.....The function of the thyroid gland is impaired.

About 5% of the human body weight (about 3 kg) is made up of minerals. Of all the minerals, the most common in the human body or in food are potassium, sodium, calcium, magnesium, iron, sulfur, phosphorus and chlorine. Their share is 99.9%.

Iron. This element participates in the biosynthesis of compounds that provide respiration, participating in redox reactions. Lack of iron in the body leads to the development of anemia and a number of other diseases. The requirement is 14 mg. In flour with a high grinding content, the amount of flour will be less. The easily digestible form of iron is found in abundance in meat products, liver, egg oil (2000 mg/100 mg of the product).

Copper. Copper is found in combination with proteins. It is an activator of many enzymes. The daily requirement is 2 mg. It is found in abundance in liver, eggs, butter and corellas.

Iodine. Iodine plays an important role in the synthesis of thyroxine hormones. Iodine deficiency causes bull disease. The daily requirement is 100-150mcg. OOM (4 - 15mcg%), in marine fish 50mcg/100g, in cod liver 800, in seaweed-from 50mcg to 70000mcg/100g.it will be up to. 30-60% is lost during heat treatment of the product. Terrestrial plants have 10-100 times less. Therefore, 25 mg is added to the salt.

Fluorine. With a lack of fluoride, dental disease develops. The excess also accumulates on the tooth and changes the color of the teeth. The daily requirement should be 0.2-, 3,1 mg for adults and 0.5 mg per day for young children.

Magnesium. This element plays an important role in the activation of enzymes. Improves the functioning of the nervous system and heart muscle. 200-300 mg is consumed per day. Mostly vegetable raw materials are rich in magnesium.

The minerals that make up food in large quantities (in relative amounts) are called macronutrients, and those that are included in smaller amounts (copper, iodine, cobalt, zinc, arsenic, etc.) are micronutrients.

The amount of macronutrients in the product is more than 1 mg/%. The amount of trace elements does not exceed 1 mg/%.

Some minerals are included in food products in smaller quantities. These include tin, lead, mercury, etc. That is why they are called ultramicroelements.

The amount of ultramicroelements in 100 grams of food does not exceed several micrograms.

Potassium. 90% of the potassium is inside the cell. It participates in the transmission of nerve impulses. Controls water-salt metabolism. The daily requirement is 2000-4000 mg. Potassium deficiency leads to impaired cardiovascular activity. Sources rich in potassium include apricots, grapes, seaweed, beans, peas, potatoes, vegetables and fruits.

Chrome. This element is important for carbohydrate and lipid metabolism. Brewer's yeast and liver are rich in this element (10-80 mg/100 g).

Manganese. The daily requirement for Manganese is 0.2-0.3 mg per kg of human weight. The most manganese is found in cranberries and tea, the least in chestnuts, cocoa, vegetables and fruits (100-200mcg/100 g).

The amount of minerals in the composition of food depends on the raw materials from which the products are made, the age and diet of animals intended for meat. When burning wheat flour in the laboratory, ash of the highest grade remains - 0.55%, of the first grade - 0.75%, of the second grade - 1.25%, of red flour - 1.90%. The reason for the low mineral content in high-quality wheat flour is that it is sieved through a sieve in a mill and completely removed from the husk (bran) of wheat grains. The main part of the mineral substances of wheat grain is concentrated in its shell.

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Red flour (also known as black flour in some places) is rich in minerals because it is not passed through sieves with small holes after grinding the grain. It contains a lot of wheat bran. Its color is also closer to the natural color of the wheat grain. For the production of high-quality flour, the white part of the grain is used, which is covered with husk and yolk, called endosperm. That is why the color of this type of flour is white.

#### **REFERENCES**

1. The Law of Turkmenistan on the quality and safety of food products. Turkmenistan newspaper, 04/28/2009.
2. Ch.A. Ataev, A.Y. Yagmyrov. Food quality assessment. Ashgabat, Turkmen State Publishing Service, 2001.
3. Food reference book. Volume I. - Moscow: Ekonomika, 1986.