

THE IMPORTANCE OF NITRATES IN FOOD SAFETY

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Relevance .

Every year more than 420,000 people die in the poor quality of food consumed, and about 600 million people - sanitary - that does not meet hygiene standards food products to the consumer, after health violation. Also, food-related risks lead to the development of more than 200 acute and chronic diseases of the gastrointestinal tract, cancer [1].

The quality and safety of food is one of the most important issues in ensuring the health of the population. Food security is that the peculiarities of the production of food products to the consumer is up to and from processing and service chain, each of which is associated with the risk. FAO is an international organization that oversees all aspects of the food chain and thereby implements a single overall vision of food security. This is facilitated by cooperation with the World Health Organization (WHO). Through their additional mandates, the FAO and WHO address a range of issues related to global food security and consumer health.

The main part.

The role of agro-industry in the production of quality food products is invaluable, which also leads to an increase in demand for food products due to population growth. Accordingly, the excessive use of mineral fertilizers in recent years to increase agricultural productivity has led to the accumulation of nitrates in fruits and vegetables, especially in early spring due to the excess of nitrate in strawberries, spinach, cabbage, beets, watermelons and others. It is no secret that they cause diseases.

Also, due to excessive and irregular application of nitrogen fertilizers, the amount of nitrates in drinking water is increasing as a result of soil washing and absorption into groundwater. In addition, meat and meat products are also treated with nitrates, which give them color, taste and long-term storage properties.

Europe at the amount of nitrates average of 5% of processed meat, vegetables and more than 80% of the corresponding [2]. Excessive intake of nitrates in the body leads to serious health disorders (primarily in children and the elderly). According to the absorption of nitrates in the stomach. 8 - hour urine up to 90% of nitrates separated. After the clinical symptoms of poisoning by nitrates organism 1 - 6 hours after the visible and palpable enlarged liver and stomach, mixed with scleral subicteric dyspeptic disorders characterized by the form. As well as by changes in the nervous system - part of a general weakening, weakness, drowsiness, dizziness, headache, symptoms of a violation of vision darkened, in line with movements can be monitored. Nitrates vasodilating effect of a decrease in arterial blood pressure, sinus arrhythmia, chest aching, clearing breathing.

Nitrate excreted is one of the main components of the T-forming salts, fertilizers and many people depend on farming practices such fertilizers is growing over the years has led to increase in the level of irritation. Long years, the people of dietary sources of nitrates

metemoglobinemia and cause cancer, and that it is harmful to human. However, it has also been found that normally taken nitrates are important for the body.

Accordingly, daily norms of nitrates in food for consumption have been developed for the body. At the beginning of nitric oxide in the 1980s in the body, nitrates are produced endogenously, this is about the safety of nitrate. Nitrate and nitrite consumption is an advantage of the most discussed and described its positive effects on the cardiovascular system is established. Recently, cardiovascular and infectious diseases, to protect the sources of nitrate diet dishes were revealed. Tests in animals have shown that dietary nitrates and nitrites lower blood pressure through their antioxidant properties. Such a decrease in blood pressure by nitrates is due to the conversion of nitrates to nitrites and NO, which requires an assessment of the risks and benefits associated with nitrates in our food and water supply.

According to the World Health Organization, the permissible amount of nitrate in food is 3.7 mg per 1 kg per day for adults, and 222 mg for those weighing an average of 60 kg. [2]. Table 1 below shows the permissible levels of nitrate in melons and fruits. Exceeding these indicators of daily consumption of vegetables and melons is considered dangerous for human health.

Table 1
Permissible norm of nitrate content in vegetables and melons *

Nº	Nomi	Nitrate content mg / kg
1	Greens	2000
2	Bodring	150-400
3	Pumpkin	400
4	Carrots	250
5	Beets	1400
6	Cabbage	900
7	Potatoes	250
8	Tomatoes	150-300
9	Bell peppers	200
10	Onion	80
11	Grapes	60
12	Don't	60
13	Apricot	60
14	Strawberries	100
15	Melon	90
16	Watermelon	60

* - Information from the site <https://www.botanichka.ru/>

It should be noted that, at present, a number of scientists by the amount of food containing nitrates allowed by the standards of many scientists abroad A.T.Donald, D. Kay, M. Super H. V., HEES, D. Data collected by Mackenzie et al. In our country, detailed information is provided in the textbooks and monographs recommended by Ph.D., Professor G. Shaykhova, Sh.I. Karimov. Hence, it is important to control the order in which

nitrates in food enter the body . In general, healthy growth for the next generation, as well as a healthy lifestyle, of course requires adherence to food security.

Conclusion .

Based on the above data, it is worth noting that in the conditions of the country there is not enough scientific work on the content of nitrates in food, which necessitates doctoral research in this area and the implementation of preventive measures among the population.

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[2] <https://pubs.acs.org/doi/10.1021/acs.jafc.9b01194>

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