

THE IMPORTANCE OF ENRICHING CONFECTIONERY PRODUCTS WITH VITAMINS AND MINERALS

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ABSTRACT

In this article we will talk about the methods of producing useful confectionery products for the human body

Key words: *confectionery products, vitamins, minerals, micronutrients, pectins, nutritional fibers, proteins and amino acids.*

Confectionery is a product that has good taste, aroma and pleasant appearance. They are high in sugar, easily digested by the body and have a positive effect on the human central nervous system. Confectionery is a high-calorie food concentrate. The nutritional value of any food depends largely on the amount of vitamins it contains.

Vitamins are organic compounds that are found in very small amounts relative to the main components of the product, but are important. They are biologically active compounds and, to a lesser extent, affect metabolism.

All vitamins are divided into 2 groups:

1. Water-soluble vitamins C, B₁, B₂, B₆, B₁₂, P, PP
2. Fat-soluble vitamins A, D, E and K.

Sugar, molasses, and starches used in the manufacture of confectionery products are low in vitamins due to their refined state. High content of high and 1st grade flours used in flour confectionery (0,28-2,1 mg %) C, B₁, B₂, PP vitamins occur.

Adding wheat flour to soy flour or peanut butter to flour confectionery can help fortify them with vitamins. Soybeans are rich in vitamins and valuable minerals (mg percent (%)): B₁-1,62, B₂-0,3, B₆-1,18, PP-2,14, pantothenic acid -2,15,

Biotin-0,18, inositol-0,229. Percentage of minerals (%) calcium -0,22, phosphorus-0,59, sodium -0,38, potassium - 2,09, chlorine -0,02, magnesium -0,24, iron -0,008, manganese -0,0032.

Research institutes recommend that one serving of a product be 30 percent of the norm required for vitamin fortification. The first confectionery at the Udarnisa confectionery factory in Russia was added in 1935 to sweet dragees, mashed jelly and fruit and berry candies. Then the amount of vitamin C increased several times, 100 mg of jelly marmalade. percent vitamin C was present.

The addition of pine needles to fortify marmalades and lipsticks has been shown to increase vitamin C. Namatak powder was then added to chocolate, caramel and iris products. As the content of vitamin C in these confectionery products increases, the taste improves and becomes a medicinal product.

Ways to fortify confectionery are as follows:

- In the preparation of caramel with vitamins, vitamins are added to both the caramel mass and the ingredients;

- In lipstick candies glazed with chocolate, vitamins are added only to the lipstick mass;
- Vitamins C and B1 are added in dry form before the final stage of production;
- Vitamins are added to the caramel mass when breaking it, before pouring it into the lipstick mass.

The amount of vitamins C and B1 is added in relatively large amounts, depending on the experimental-based loss rate. For example, in the preparation of obikidandon caramel (monnase) products, this amount is increased by 10 percent. 80 mg in 100 g of monnase product. percent vitamin C and 4 mg. If 8% of vitamin B1 is required, 880 mg of vitamin C and 44 mg of vitamin B1 are added to 1 kg of body weight.

It is important to fortify foods with vitamin-mineral compounds, such as perimixes. Perimixes produced by specialized enterprises are used to fortify food with such micronutrients.

When people do not get enough vitamins and minerals, their physical and mental abilities decline, their resistance to various diseases decreases, nervous and emotional tension, stressful situations occur, and the duration of active work is reduced.

The content of minerals in confectionery products is low in 0.1-0.2% (in fruit and berry products, obicadon (ledenes) caramel, candies) and 1-1.7% (in chocolate, praline candies, halva) and in very small amounts. The main vitamins occur.

Pectins (plant polysaccharides) are natural nutritional supplements that include apple, citrus, beetroot, sunflower, and other powders. Pectins are soluble and insoluble substances needed for normal digestion. They have good swelling and adsorption properties. Pectin and pectin-containing substances can remove not only radionuclides, but also heavy and toxic metals, pesticides, herbicides and other contaminants from the stomach.

Currently, the production of pectin-containing products in the food industry is expanding. Pectin is used in the preparation of fruit purees, pickles, syrups, marmalades, jellies, beverages, fruit ingredients.

The content of pectin in the products recommended for therapeutic and prophylactic nutrition is 2.3-6.4%. According to the recommendation of the Ministry of Health, the daily norm for the body is 3-5 grams. The production of apple, apple-carrot, apple-apricot, apple-pumpkin, carrot-plum, and other vegetable and fruit pastes with the addition of active pectin has been launched.

Dietary fiber is a complex of polysaccharides (pectin, gelicellulose, cellulose) and lignin and its associated proteins. Dietary fiber has the ability to remove toxic and harmful components from the human body. If they are not enough, they weaken the body's resistance to the negative effects of the environment and lead to diabetes, atherosclerosis, ischemic heart disease, intestinal diseases and obesity.

Currently, the confectionery industry also uses raw materials that contain dietary fiber. Wheat bran and fruit and vegetable powders are used as sources of dietary fiber. However, the structure, color, smell and taste of these components lead to a decrease in the consumer properties of the finished product. Therefore, the search for and use of such flawless substances is an urgent problem.

Products with high levels of protein and essential nutrients are a separate group. The nutritional value of a protein is measured by its amino acid composition and digestibility. Humans need not only protein, but also a certain amount of amino acids that are not synthesized in the body. In the absence of any of these amino acids, it can lead to poor health.

Nowadays, the production of functional confectionery products is of great importance because they have a traditional appearance and taste, but contain vitamins (groups C, D, B), minerals, dietary fiber, lipids with

high unsaturated fatty acids, amino acids (enriched with b-carotene, tocopherol) and has a positive effect on the human body.

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