

Секція 5. УДОСКОНАЛЕННЯ ПРОЦЕСІВ ТА ОБЛАДНАННЯ ХАРЧОВИХ ВИРОБНИЦТВ

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CANDIED FRUITS FROM NON-TRADITIONAL RAW MATERIALS WITH LOW SUGAR CONTENT (ЦУКАТИ З НЕТРАДИЦІЙНОЇ СИРОВИНИ З НИЗЬКИМ ВМІСТОМ ЦУКРУ)

The diet of modern man, which ultimately determines his health, is formed on the basis of physiological needs for energy, macro- and micronutrients. At the same time, it somehow reflects individual characteristics, economic opportunities and human nutritional habits.

In fact, today there are no strict, normatively fixed rules for compiling a diet. Perhaps the only rule is the diversity of the diet, providing all the physiological needs of a person.

The latest WHO food policy recommendations include the following: fruit and vegetable production should ensure its consumption of at least 400 g per day per person. A balanced human diet largely depends on the consumption of fruits, vegetables, berries as the main sources of vitamins, trace elements, organic acids and other biologically active substances.

It is well known that the chemical composition of fruits and berries is represented by all the nutrients necessary for the human body. Fresh fruits and berries contain 75 to 95% water, while about 95% of the water is in free-moving form and only 5% of the water in the bound state is retained by colloids. An important component of fruits is dry matter, its content ranges from 10–20% and even up to 25%. A significant part of these solids is carbohydrates- sugar (glucose, fructose, sucrose), polysaccharides, pectin, fiber. As it is known, fresh fruits and vegetables have a short shelf life, as various microbes and enzymes act on them quickly spoiling it. Consequently, fresh fruits and vegetables must be eaten immediately, and the surplus skillfully should be maintained during the autumn-winter and spring periods. Thanks to the special attention of the country's leadership, agriculture is booming in the Republic of Uzbekistan. Particular attention is paid to gardening and vegetable growing. The quality of the crop is improving every year. With the improvement of quality, the quantity of the obtained crop is growing in parallel.

In this regard, the topic of development and implementation of modern technologies for processing a large number of perishable raw materials in the

form of fruits and vegetables, while fully maintaining the nutritional and taste qualities of the final product, has become urgent. One of the most alternative technologies in the modern world is to saturate the fruit pulp with sugar, with the final product in the form of candied fruits. This direction of thermal processing has an advantage over drying and preserving. In the process of saturation of fruit pulp with sugar, the composition of fruit food acids improves, and its total number increases. The main advantages in the production of this type of food product is increased shelf life and convenient transportation of ready product.

Candied fruits contain various substances useful for the body like mineral salts, microelements, fiber, pectin and a number of vitamins. Candied fruits are made from fresh, frozen or sulfated apricots, quinces, cherry plum, grapes, peaches, pears, apples, plums, citrus peels, etc.

We have developed the technology of candied fruits with sugar and without sugar from non-traditional type of raw materials. Non-traditional types of raw materials include peel walnut, peel of pomegranate, watermelon and candied fruit from carrots, beets, turnips, radishes and others. These types of raw materials are rich in minerals, for example, the walnut peel is rich in iron and iodine, which are so necessary in the regions of Uzbekistan in human nutrition. When developing these technologies, it is necessary to determine the exposure time for the complete removal of foreign impurities, nitrates and determine their residual amount, as well as to study the safety of candied fruits and the study of changes during storage of finished products. As a result of the studies, the optimal cooking conditions, technological parameters and storage conditions and changes occurring during the storage of finished candied fruits were studied and determined. As the necessary documentation for the production is lacking, the next step of our work will be developing and implementation of specifications and technological instructions for the production of candied fruits from non-traditional raw material. Furthermore, it is planned to develop normative technical documentation for production according to ISO 9001 requirements.

With the introduction of this technology in the markets and counters, the assortment of candied fruits will be expanded. The country's population will consume more food rich in fiber, pectin, and micro/micro elements. The price of candied fruit will be quite low, and the product itself is useful and of high quality.