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OF SCIENCE DEVELOPMENT**



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# ТЕХНИЧЕСКИЕ НАУКИ

## TRENDS IN THE PROCESSING OF FRUITS AND VEGETABLES FOR HEALTHY FOODS

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**Introductions.** In the daily diet of each person should always be present certain fruits and vegetables, because it allows us to maintain a charge of vigor and enrich your body with the necessary vitamins. The fruits and vegetables we use for food contain various inorganic and organic substances: trace elements, vitamins, proteins, organic acids, pectic and substances. Healthy and proper nutrition involves eating 4-5 times a day. The principle of this is 3 basic receptions and 2 snacks (dairy products, fruits, dried fruits, nuts). It is in this mode that metabolism will work properly.

Fruits and vegetables are products of nature - plants are organisms that continue to live even after their separation from the parent plant. In the process of growth, fruits and vegetables accumulate organic and mineral substances, complex biochemical processes occur, the main of which is respiration. Fruits and vegetables grow due to the formation of tissues and cells from chemical compounds. Gradually, they reach the nutritional maturity, acquire the appropriate appearance, color of the skin, pulp, the maximum amount of chemical consumables that cause the taste and smell.

**Aim.** The purpose of the work is to analyze the segment of the market for the production of fruit and vegetable snacks and their nutritional and physiological value.

**Materials and methods.** To achieve this, we have analyzed literature on current trends in healthy eating. There are identified product groups that are in

demand today as a quick food. The subjects of the study were fruit and vegetable snacks, marmalade, marshmallow, natural (vegan) sweets.

**Results and discussion.** Fruit natural (vegan) sweets are made on the basis of fruit and sugar. Fruits for these sweets are prepared using vacuum, infrared or combined drying (combined with convective drying) technology. This technology allows the process of drying at low temperature (40-60 °C), which leads to the almost complete preservation of vitamins, biologically active substances, natural color, taste and aroma of the dried products. Thanks to this technology, up to 90% of vitamins remain in the fruit. Little sweets and adults who care about healthy food, who have health restrictions, appreciate the bright, rich taste and fruity aroma.

Fruit and vegetable processing companies offer a wide variety of flavors of fruit snacks, chocolates, vegan marmalades, pastels: flavored with sweet apple, juicy pear, aromatic cherry, grapes, plums, apricots, and also forest berries - cranberries, raspberries, cranberries, raspberries, cranberries, raspberries, ginger.

Candies also have a combination of flavors: apple and raspberry, currant and cranberry and other taste combinations. Candy can also be refreshing your breath if you choose sweets with mint or ginger flavors.

As for calories, supporters of a healthy lifestyle may not worry about their weight and figure. Sweets (or snacks, marshmallow) contain about 0,6-1,27 g of protein and 60-84,90 g of carbohydrates (depending on raw materials) is a perfectly optimal indicator for the calorie content of the product. Due to the absence of fats, the energy value ranges from 200 to 350 kcal.

Snacks (chips, crisps) - are thinly sliced, dried pieces of fruit and berries without the addition of other ingredients (apple, pear, strawberry, apricot, tomato, carrot, orange, etc.). It is a light, crunchy and wholesome natural product that requires no additional preparation and is ready to eat.

Marshmallow - a product made of fruit (vegetable, berry) puree. Due to the fiber content, the lozenge helps to improve digestion and cleanse the intestines from the slag. Pectin, which is contained in the raw materials, helps to cleanse the body of

heavy metals, residues of medicines, toxins, enhances the body's ability to protect against adverse substances.

**Conclusions.** When storing chocolates, marshmallow, snacks, the correct temperature and humidity must be observed. Fruity natural sweets can be eaten between meals, eat as a dessert, take with you to work, to school, for a walk or on a trip.

## **IMPLEMENTATION IN THE EDUCATIONAL PROCESS OF THE SOLIDWORKS SIMULATION**

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The activity of engineers in today's professional reality is multifunctional. It includes the design of technological processes and the choice of technological equipment, control over the proper operation of technology, rational organization of interaction between people and technology, improving the efficiency of its use, etc. The rapid change of technology requires constant training of technical specialists. Therefore, the task of improving the efficiency and quality of higher engineering education is now more relevant than ever.

Educational standards of training of engineers are changing in line with new production needs. Therefore, graduates of technical colleges should have professional competencies of free ownership of computer aided design (CAD) systems: modern