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BASED ON THE OPTIMUM INDICATORS OF THE FREEZING SYSTEM OF THE VACUUM-SUBLIMINATION DEVICE FOR APRICOT DRYING

Egamberdiev Azizbek ogli,
Ergashev Oybek Karimovich,
Meliboev Mirazam Foziljon ogli
Namangan Institute of Engineering and Technology
Tel: +99 (893) 496 2813, e-mail: egamberdiyevazizbek206@gmail.com

Abstract

This thesis provides analysis data on the theoretical basis of drying Subhoni varietal apricot fruit, their main characteristic indicators and dependence on drying. Also, the device for sublimating drying of apricot fruit touched on the optimal indicators of the freezing system and gave recommendations on the criteria for choosing raw materials for drying.

Keywords: apricot, variety, freezing, drying, chemical composition, parameter, dependence on drying.

Introduction

Drying is considered one of the most common folk methods of Canning. It is considered a complex mass exchange process, which is considered one of the processing methods that allows efficient storage of products [1]. The organization of the drying process of fruits and vegetables in the industry is of great importance. First of all, with the organization of quality drying of fruits and vegetables, it serves to increase the profitability of production of specialized farms for horticulture and vegetable production, and their competitiveness, further economic progress is achieved. Because the organization of drying fruits and vegetables is one of the simplest, cost-effective areas of the field of processing agricultural products. Secondly, dried fruits and vegetables are realized at high prices both in the domestic market and in the foreign market. Thirdly, with the drying of fruits and vegetables, there is an opportunity to store them for a longer period, depending on their characteristics, and even in the off-season, the opportunity arises to satisfy the population of our country's need for these products. Fourth, in the summer period on the territory of our republic, many fruits fall out and the nes die. And the organization

of drying allows you to prevent these products from spilling and dying. It can be seen that drying fruits and vegetables is a promising direction for farmers and farms [2]. When drying agricultural products, attention should be paid to their quality indicators. In particular, one of the main indicators that determine the quality of fruits is determined by their appearance. The appearance of the fruits is assessed by the fact that they are not mechanically damaged, crushed, without various stains [7].

MAINPART

The process of dehydrating materials under high vacuum when Frozen is known as sublimated drying. Under these conditions, the moisture contained in the material is in the ice state, and then this ice turns directly into steam, without changing to a liquid state.

In order to achieve an effective result in the process of drying apricot fruit, selected as the object of research, through a sublimation method, work was carried out in the following order:

The first stage is the study and analysis of the indicators of the main texture of the product and its dependence on drying. The flesh of dried apricot varieties is dense, yellow in color, has a high sugar content and is low in acid. Among the dried apricot varieties grown in Central Asia, “Subhoni” is of its own importance. Usually, the weight content of water in fresh plant raw materials is 72-96%, and this water ensures the course of the physiological processes that take place in its composition, and also creates conditions for the survival and reproduction of microorganisms that fall on its surface, and causes product nausea. For this reason, drying, it is important to study the chemical composition of fresh fruits and vegetables.

The table below shows the average chemical composition of apricot fruit:

Table 1. Chemical composition of apricots

Chemical composition (in % relative to total weight)	Apricot
Water	86
Protein	0,9
Mono and disaccharides	9
Starch	-
Kletchatka	0,8
Organic acids	1,3
Kul	0,7

The second stage is the preparation of the fruits for drying. Before drying, it is worth paying attention to the fact that the fruits have not passed ripening, the worm has not eaten, there are not many defects and are in a clean state.

The third stage - Subhoni, selected as a research object, was placed in the drying lists of varietal apricots and placed in a laboratory freezing chamber named Arctiko, frozen to a temperature of – 40^0 C. The process depends on the ambient temperature and takes up to 8 hours. The higher the external environment than 25^0 C, the lower the freezing rate.

After placing the product in the freezing chamber, it was launched in the following order:

a) ON / OFF button pressed;

b) password dialed;

s) enter key is pressed.

After the product is sufficiently frozen, the shutdown of the freezing chamber is carried out in the same order.

The fourth stage-the product was taken from the freezing chamber and placed in the drying chamber, bringing the temperature inside the chamber to 30^0 C degrees. To bring the temperature inside the camera to a negative level, the freezing button on the electric paanel was turned and the indicator indicator was brought to 30, and the temperature was raised according to the table below.

Table 2

№	time (hours)	temperature of camera (^{0}C)	vacuum (kPa)
1	4	-30	0.1
2	4	-20	0.1
3	4	-10	0.1
4	4	-5	0.1
5	4	0	0.1

Conclusion

In place of the conclusion, it can be said that it is important to organize the process of drying fruits and berries, vegetables in the industry using energy-efficient devices. As can be seen from the data of the above analysis, the product was first frozen to a temperature of -40^0 C, and in the order indicated in the second table, the temperature

was gradually raised. The main reason for this is that this indicator is the optimal regimen so that the minerals and vitamins contained in the above-mentioned product retain their properties. Therefore, in order to properly organize the drying process, it is necessary to know well the basic texture indicators of raw materials and carry out work based on the most optimal parameters of the device.

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