AJPDIS
GLOBAL RESEARCH NETWORK

AMERICAN Journal of Public Diplomacy and International Studies
Volume 01, Issue 09, 2023 ISSN (E): 2993-2157

Specific Characteristics of Drying Storage of Fruits and Vegetables

Sh. Dexqonova, D. G`aniyeva, J. Ermakova
Assistant teachers of the department of technology of sericulture, storage and processing of agricultural products, Andijan Institute of Agriculture and Agrotechnologies

Abstract: This article provides information from the literature on methods of drying dried fruits and vegetables. On this basis, along with the development of export of dry products in our country, it is possible to achieve a number of positive achievements in the field of agriculture. In particular, dry goods are very convenient for loading, unloading and storage, dry goods are also an invaluable quality product for various expeditions and passengers.

Keywords: fruits, vegetables, drying, varieties, dry product, blanching.

In the republics of Central Asia, the convenience of natural conditions makes it possible to dry fruits and vegetables in the sun. The purpose of drying fruits and vegetables is to remove moisture from them and prevent the development of microorganisms and various biological processes. There is such a rate of drying that microorganisms cannot develop if the moisture content drops below that level. This is at least 30 % for bacteria and 15-20 % for yeast. Therefore, if the moisture content of vegetables after drying is 15-25 %, they can be stored in good quality without rotting.

In Central Asia, fruits and vegetables are mainly spread out and dried on sunny areas. In this situation, in order to obtain a cheap and high-quality product, it is necessary to correctly select and organize worming points, follow the specified technology, and use advanced methods in the preparation of raw materials.

In addition to drying in the sun, fruits are also dried using artificial heat. Such drying cabinets, tunnels, continuous networks are used.

Fruit drying consists of two stages, that is, preparation for drying and drying stages. The first stage includes the following: it consists of sorting according to size, washing, choosing according to quality, cleaning, grinding, blanching or boiling. The second stage consists of drying the fruits.

Drying of fruits is not only removal of moisture from them, but also includes complex physiological and biochemical processes. The duration of the drying process depends on many factors, namely, the nature of the drying object, the form and degree of crushing of raw materials, its thickness on the drying floor, the method of preparation for drying, the drying temperature, the speed of air exchange, humidity and a number of other factors.

Dried fruits and vegetables are stored well for a long time in special containers (sealable containers are very convenient), at low temperature (at 0-10^{o}C) and air humidity of 60-65 %.

Table 1. Chemical composition of dried vegetables

(Information by E.N. Volkov)

Name of the product	Content, %			Calories
	Dry matter	Protein	Carbohydrate	kcal per 100 g product
Carrot	86,0	7,44	52,96	247,6
Potatoes	89,0	5,25	71,73	315,6
Beetroot	86,0	7,36	54,32	252,9
Quince	88,0	12,36	39,61	214,2
Apple	88,0	11,64	52,96	265,7

When drying fruits and vegetables, most of the moisture is removed from them. cell juice and osmotic pressure increase many times. Therefore, the development of pathogenic microorganisms is impossible and biochemical processes stop.

When vegetables are dried slowly by means of transportation with high productivity, the basic composition changes, the number of vitamins and other biologically necessary substances decreases. Drying methods have been developed that maintain the quality close to the indicators of raw materials.

At the beginning of the drying period, the drying rate is very high, because the moisture in the product is reduced from the material between the product surface and the large cell. Then the drying rate decreases, but remains at a constant level.

If the drying mode is properly organized, the external and internal diffusion is almost the same and the product is dried evenly. Drying temperatures can cause overheating and over-drying. In addition, the quality of the product changes, its taste and smell are lost. Many vitamins lose their potency. The main thing is to keep it at a constant temperature during the drying period.

An increase in temperature leads to deformation of the product and slows down the ripening process. The high quality of dried fruits and vegetables is based on air temperature and drying speed. The drying mode depends on the morphological and dimensional properties of the products, the degree of grinding, and the method of preliminary preparation. Mostly apples, pears, apricots, plums, grapes, potatoes, quinces, carrots, red beets (red), apples are dried, but other products can be dried as well. Raw materials must meet the given standards and must be of high quality.

Preparation of raw materials mainly consists of sorting, selecting according to size, washing. Many vegetables and fruits have their skins and inedible layers removed. Large vegetables are cut into slices, cut into plates and cubes, and chopped. The higher the grinding level, the faster the drying. Briquetting the product is easy. The main process of preparing fruits and vegetables for drying is blanching.

Potatoes, carrots, beets, quinces are dried until they are half ready. Steam is used in blanching. Herbs such as apples, garlic, cilantro, and celery should not be blanched, as they lose their aromatic substances and essential oils.

References:

1. Shoumarov Kh.B., Islamov S.Ya. Technology of storage and primary processing of agricultural products. - Tashkent, 2011.
2. R. Oripov, I. Sulaymonov, E. Umurzakov "Technology of storage and processing of agricultural products". Tashkent, "Mehnat", 1991.
3. H. Boriev, R. Rizaev. "Biochemistry and technology of fruit and grape products". Tashkent, 1966.

4. R.J.Joraev, M.M.Adilov “Technologist of storage and processing of agricultural products”. Tashkent, 1999.
5. Ermakova Jamilakhon Mukhammadovna “The process of drying plums and taking precautions in their storage” Impact Factor 5.312, The American journal of agriculture and biomedical engineering, Volume 2, Issue 10, 2020.
6. Ermakova Jamilakhon Mukhammadovna “Technology of preparation of aprocots, raisins and currants from dried varieties of apricots”. Impact Factor 7.169, International Engineering journal for Research and Development, Volume 6, Issue 6, 2021.
7. Ermakova Jamilakhan Mukhammadovna “Drying cherry in the sun”. Impact Factor 9.6, International Interdisciplinary Research journal, Volume 2, Issue 6, 2023.
8. Azizov A.Sh., Dexqanova Sh. Yu., Yusupov N.Sh., Qaxxorova S.A. “Characteristics of protectiva bags used in the growing og grapes”. Impact Factor 7.699, Asian journal of multidimensional research, Volume 10, Issue 4, April 2021.
9. Khalilova Saidakhon, Egamberdiyev Oybek, Dehkanova Shaxnoza, A.Bozorboyev “The importance of the amaranth plant in the production of gluten-free foods” . BioGecko, Vol 12 Issue 02 2023