

# NEW AND PROMISING TRENDS IN THE PROCESSING OF DRIED GRAPES

Dehkanova Shakhnoza Yulbarsovna Assistant, Andijan Institute of Agriculture and Agrotechnology

## Abstract

The purpose of this work is to analyze chemical reactions.

Keywords: Chemical reaction, sodium, iron oxide.

#### Introduction

A number of scientific studies have been conducted in many countries of the world on the drying of fruit and grape products. The scientific studies have mainly provided scientific and practical recommendations on fruit drying, its packaging and variety selection. In particular, scientists from Turkey, Iran and the USA have focused on the technology of drying fruits, and most of the research has been conducted on improving the drying processes of fruits and grapes. A number of scientific studies have been conducted in many countries of the world on the drying of fruit and grape products. The scientific studies have mainly provided scientific and practical recommendations on fruit drying, its packaging and variety selection. In particular, scientists from Turkey, Iran and the USA have focused on the technology of drying fruits, and practical recommendations on fruit drying, its packaging and variety selection. In particular, scientists from Turkey, Iran and the USA have focused on the technology of drying fruits, and most of the research has been conducted on improving the drying fruits, and most of the research has been conducted on the technology of drying fruits, and most of the research has been conducted on improving the drying processes of fruits and grapes.

Research objectives and specific issues. The processes of growing and processing grapes seem simple at first glance. However, drying grapes is a more complex process compared to the dehydration of other agricultural products. [2] Because harvesting in the same season, the impact of harvest times on the raw materials being processed, and the separation of the harvested crop into varieties depending on the type of finished product are quite complex in organizing the work. [3,8,10] Although many of the technologies that are carried out sequentially, including pre-processing operations before raisin production and storage processes after drying, are considered to be justified, scientists and researchers are discovering new and new innovations in various processing of grape fruits.

focused on drying, where the main effect of pretreatment on drying is evaluated. [1,3,8,9] Now, after a critical review of all relevant data published in the literature and taking into account the important aspects of the grape drying process, both pretreatment and post-drying, it should be noted that the results of this study will be useful in identifying future research directions necessary for grape drying, as well as in developing an analytical basis for the design of new drying equipment.

Research methodology. Fresh grapes with high moisture and sugar content breathe and actively pass after harvest, which contributes to the loss of quality. Drying is one of the technologies by which grapes can be processed, and is carried out in order to preserve raisins for a longer time and increase the quality of the finished product, the content of biologically active substances. One of

the most common methods of preserving grapes in many countries of the world is storage in special refrigerated warehouses, which are treated with sulfur dioxide, which acts as a special generator, in various doses - regular sulfur, using packages with special metasulfite solid preparations [6.5; 2.2 p.t.]. In general, the resistance of grapes to drying is their natural property. Therefore, one variety can be dried in different ways [7].

First, pre-treatment, drying method and drying conditions can have a significant impact on the quality of the final product. Pre-treatment processes can be carried out shortly before harvest or during post-harvest processing. This includes fumigation with sulfur or blanching. This, in turn, determines the quality of the raisin product, ensuring that damaged or damaged grapes do not negatively affect the finished product. In addition, the quality and drying characteristics of various pre-treatments are also summarized.

Secondly, today's industrial technology can organize traditional grape drying processes, from complex techniques. In any case, the processing of grape clusters without destroying them, that is, drying, does not reduce the cost of the product. On the contrary, it is considered a good source of income for the manufacturer. In addition, the world market values raisins more highly than grapes. The same applies to exporting raisins in terms of transportation and delivery. Examples of these drying methods include traditional sun drying, shade drying, hot air drying, freeze drying, microwave drying, as well as vacuum pulse drying.

During drying, the content of some substances in grapes increases, the change in chemical and physical state does not affect the quality of the product. According to A.K. Molchanov [11], the composition of ascorbic acid, carotenoids, other vitamins and some polyphenols (catechins, etc.) changes during drying due to biochemical and chemical decomposition.

During thermal drying, moisture, evaporation includes volatile substances, as a result of which the natural aroma of dried fruit and grape grains is weakened [10].

Raisins can be made from seeded and seedless varieties of grapes. Today, according to consumer demand, white and black varieties of seedless "Kishmish" are popular. Yellow raisins obtained from white raisins are considered more sour than black raisins obtained from black raisins [5,3;].

Research results and discussion. The suitability of grapes for the production of raisins, and perhaps even the quality of the final product, depends on how timely and properly the necessary agrotechnical measures are carried out throughout the year to obtain a grape harvest, in particular, pruning, irrigation, fertilizer supply, protection from frost and pests, and other work. For example, due to the hot and dry summer, gardeners in their regions who did not properly carry out the above-mentioned measures and did not provide proper care and nutrition for the plants, more often observed "fatigue" of grape stems. As a result, their harvest can no longer be used as raw material for raisins, or it is impossible to prepare high-quality raisins from such grapes.

In short, the quality of raisins depends not only on the ripening conditions of the grapes (the amount of glucose in them, the optimal temperature), but also on the entire process of grape growing. To obtain high-quality raisins, the glucose content in grapes should ideally be 25-30%, and at least 20%. The closer the glucose content in the grape seed to the ideal value, the better the quality of the raisins. For example, if the glucose content in the grapes is 20%, you will get 1 kg of raisins from every 5 kg of grapes, while if the glucose content is at the ideal level, you will get 1 kg of raisins from every 3 kg of grapes.

Conclusion. The prospects for grape drying largely depend on the biological characteristics of the grape variety, the agro-ecological conditions of its cultivation, the quality of new grapes and their technochemical indicators. In order to obtain high-quality dried grapes in the agro-ecological conditions of the wine-growing regions of the republic, including the valley regions, it is necessary to select, produce and introduce more modern, environmentally friendly and energy-efficient grape varieties for drying. The use of cost-effective technologies for drying products, including in the valley, has a special perspective - the most favorable agro-ecological conditions of the region allow the cultivation of very early-ripening raisin grapes and high-quality raisins. Here, the introduction of grape drying technology based on the use of local solar battery drying equipment into production has great prospects. Therefore, it is necessary to scientifically substantiate and develop individual elements of this technology, taking into account the agro-ecological conditions of the valley regions, as well as to select raisin grapes for drying using this technology. selection of varieties will be a major scientific and practical work.

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