



Functional substances in grape seed and seed processing research

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Keywords

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Khoraki grapes
Press-extraction methods
Vitamin
Oil contains

Abstract

The article provides information about the countries where grape seeds are most grown, about the healing substances contained in the seed oil kislots, vitamins, macro and microelements, as well as about their healing for various diseases. In addition, the article presents the results of research on the division of khoraki grapes into parts. Also listed are methods for producing oil from grape seeds.

Introduction

Grapes (*Vitis vinifera*) are planted on an area of about 7.5 million hectares around the world, being one of the most cultivated fruit crops in the world, where 78 million tons of products are grown per year. Fruits are consumed both fresh and as processed products, such as wine, juice, jam, grape seed extract, jelly, vinegar, dried grapes, and Grape Seed Oil [1]. The total production of grapes in the world is distributed between Europe (39%), Asia (34%) and America (18%), the main grape producing countries are China, Italy, USA, France, Spain and Turkey [2]. During the production of grape juice and wine, a large amount of grape skins, seeds and pulp comes out. Grape seeds account for about 20% - 26% of the waste that comes mainly from wineries.

Speaking at the Republican level, more than 60 thousand tons of grape products are processed by enterprises every year, 3 thousand tons of grape seeds are used fruitlessly per year from production processes. Grape seed oiliness is 9-24.5%, and when the production of Healing Grape oil, the results in sheep for human health can be achieved. According to the teachings of Abu Ali ibn Sina, one of the founders of oriental medicine, our great-grandfather, the oil of grape seeds contains the original treasure of nature, which is extremely useful for the human body. The main reason for the fact that it is a high-quality nutrient, a treatment – prophylactic and cosmetic product-it contains vitamins (E, A, B1, B2, B3, B6, B9, B12, C) macro-micro elements (potassium, calcium, sodium, iron and B.), an abundance of fatty acids, flavonoids, phytoosterol, decomposing substances, phytoncides, chlorophyll and enzymes.

Grape seed oil is rich in melanin acid and Omega-6 (up to 70%). Therefore, this product moisturizes the skin, slows down the aging process.

When added with Omega-9 acid (25%), linolenic acid has the property of anti-inflammatory, raising immunity, improving lipid metabolism, meowing the work of the heart and blood vessels, improving the functioning of the nervous and endocrine systems, as well as cleansing the body from various harmful substances (toxins, slags, heavy metal salts, radionuclides). In addition, grape oil contains Omega-3 acids palmitin, stearin, palmitolein, arachine and linoleum, albeit in small quantities [3-4].

Extremely dangerous for the human body, it has a 20 times stronger effect on Aging before the deadline, vitamin C in the fight against free radicals that cause inflammation and Tumor Diseases. Resveratrol Meures estrogen levels, strengthens blood vessels and capillaries, improves blood and lymph circulation, cancer. Protects against Parkinson's and Alzheimer's diseases, preserves the activities of fat "farms in the same field. Due to the fact that it

retains the collagen substance in the skin, the skin retains its elasticity and tension for a long time. Resveratrol is a natural phytoalexin substance produced by the plant to protect against vomiting, bacteria and fungi [5-6].

Material and Method

The studies were carried out using the Central Asian family of grapes with an oil content of 16.10%. Chemical analysis of the initial, intermediate and final products is carried out according to known methods.

The oil content of seeds is understood as the content of crude fat and accompanying fat-like substances, which, together with fat, are in the ether extract from the seeds under study.

Results

During the study, khoraki grapes were cut into parts and studied. The mechanical composition of grape heads is of great importance in the production of wine. The quality of juice and wine is greatly influenced by the fruits of the hard parts of the grape (fruit stalks, skin, seed) (Figure 1).

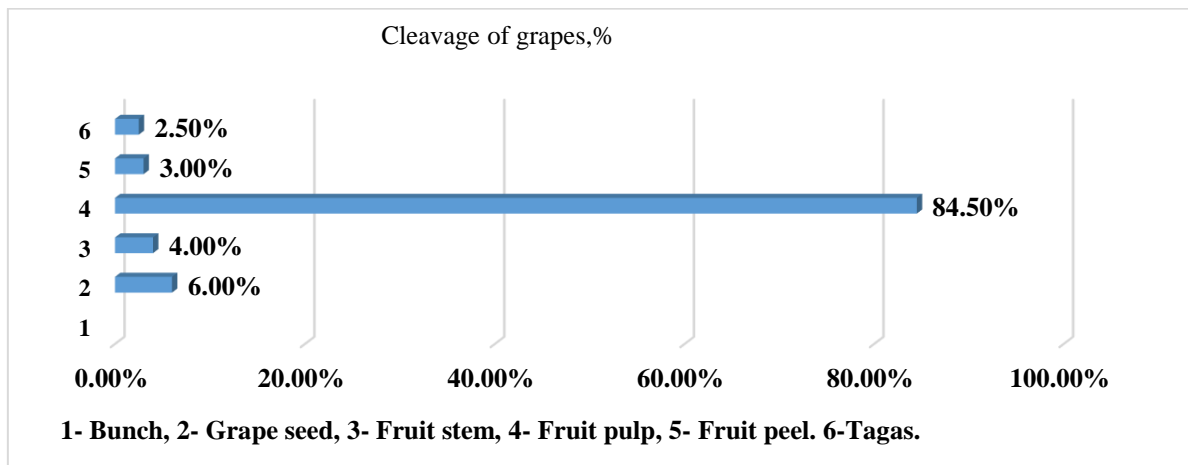


Figure 1. Cutting “Khorak” grapes into parts

When the “Khoraki” grapes were cut into parts, grape seed from the pulp was 6%, fruit stem was 4%, fruit flesh was 84.50%, fruit peel was 3.0%, tagas was 2.50%. These waste products have biological value and are rich in macro- and microelements, which can not only be used as raw materials in human feed, but also have the possibility of producing new types of food.

Based on the above, it will be necessary to pay great attention to the technological processes of oil production by processing Grape Grain. Because the preservation of biologically active substances contained in grape grains depends on the processing process.

We are told that osmosis oils are produced by pressing, for press-extraction methods. The pressing method also has the technology of oil extraction in one-step pressing, two-step pressing and cold pressing methods.

Methods of obtaining oil were analyzed, it can be said that such technological processes as mechanical impact on oil raw materials and thermal processing, and even short-term processing, lead to changes in the composition of raw materials, especially in the oil phase.

Research has shown that thermal treatment of “Yanchilma” in a convective way, accompanied by high-energy costs, especially high temperatures (100s and above), also leads to a deterioration in the quality of oil and “Kunjara” when exposed to it. If the oil is extracted by the extraction method, other substances in the oil seed will melt in the solvent effect and throw in the oil as well as additional electrical energy, the consumption of working kochi materials will be increased. By our side, it is proposed to obtain cold-pressed oil in recent years, Cold-pressed vegetable oils are more in demand due to their higher natural, safer and better nutritional value. In the cold pressing oil extraction method, no heat or chemicals are applied during or before the process. Therefore, the amount of useful phytochemicals in oil increases. By us, the technology of obtaining cold-pressed oil from Grape Seed is proposed in Figure 2 on the rock.

In Figure 2, the seed that comes to processing comes to bunker 1, which provides IT adjacent to the Shnek, from here through shnek 2 it falls to separator 3, in the separator the purified seed is collected to bunker 5, which provides it through noriya 4, from where through shnek 6 the milling equipment comes to 7 it is milled there and through filtr press is given to 14 where the oil is filtered and the oil bag comes to 15. Through the control Regiment 16, a small enterprise is managed. In this method, it is recommended to produce flour from the resulting kunjara, after separating the oil from the grape seed.

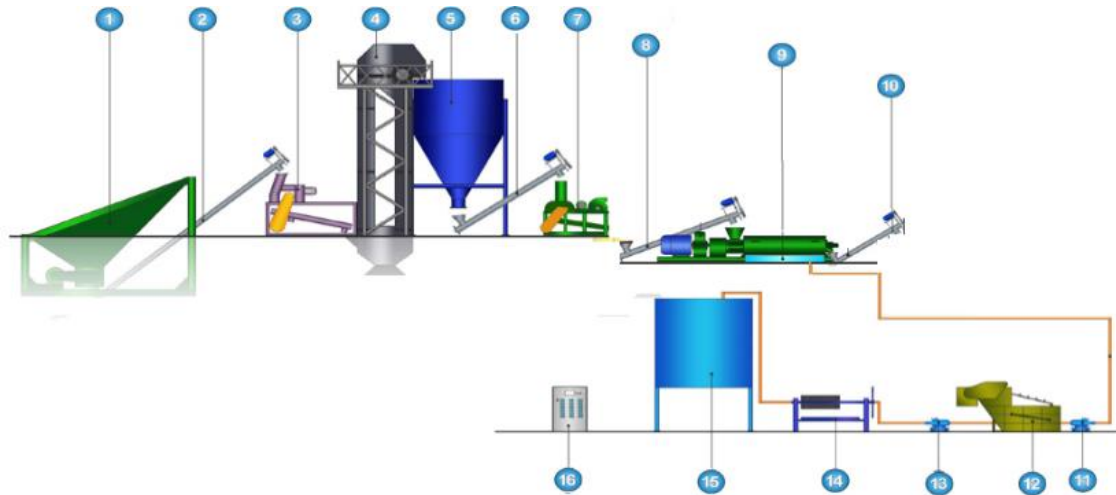


Figure 2. Seed production

Conclusion

The studies carried out showed that when the Khoraki grapes were cut into portions, the grape seed from gujum was 6 %, the fruit stem was 4 %, the fruit flesh was 84.50 %, the fruit post was 3.0 %, the tagas was 2.50%. Also, the technology of obtaining oil by cold pressing has been developed. In our further research work, we set ourselves the goal of developing optimal parameters for obtaining oil from grape seed in a cold way, as well as obtaining flour from kunjara, which comes out after the oil is obtained.

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