

Obtaining Beneficial Food Additives From The Seeds Of The Amaranth Plant

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Abstract

This article explores the potential of extracting beneficial food additives from the seeds of the amaranth plant and their applications in the fields of food and medicine. Amaranth seeds are a rich source of squalene, high-quality protein, essential vitamins, and amaranth oil, which collectively contribute to their significant health benefits. The discussion emphasizes the role of these additives in improving nutritional value, reducing cholesterol levels, and enhancing therapeutic applications. The study highlights the importance of amaranth seeds as a natural and sustainable resource for producing food additives that support both health and wellness.

Keywords: amaranth, medicine, squalene, amaranth oil, protein, vitamin, cholesterol

Introduction

The original homeland of amaranth is South America, and it is known from history that the local population used it as a cultivated plant 8 thousand years ago.

Later, amaranth spread across North America, India and Asian countries and reached China. At present, it is widely popular as a cereal and vegetable plant among the highlanders of India, Pakistan, Nepal and China. In some countries, it is also grown as an ornamental plant for its vibrant flowers and leaves. It has 65 varieties and more than 900 species.

In the past, amaranth was grown in our country mainly as an ornamental crop. In our country, a red variety of amaranth called "gultohoroz" is widespread, resembling a cock's crown.

Currently, amaranth oil is used for oncological and cardiovascular problems, coronary disease, cleansing the body of radionuclides, salts of heavy metals, infectious diseases, herpes, psoriasis, vitiligo, neurodermatitis, eczema, atopic dermatitis, gastrointestinal ulcers, diabetes mellitus, liver diseases, genitourinary colds, atherosclerosis, anemia, beriberi, angina pectoris, hypertension, etc. and is widely used as a tool that dramatically increases immunity. Among vegetable and animal fats, amaranth oil is of high quality, it has 2 times more advantages than chakanda (oblepix) oil in all respects, and this quality is useful in the complex treatment of radiation sickness.

It would not be a mistake to say that the presence of squalene in amaranth oil is one of the most important discoveries of our time. This substance, which is of particular importance in medicine, was first isolated in 1906 by the Japanese scientist Mitsumaro Sujimoto from the liver of a shark that lives at the bottom of the sea (Latin Squalus - shark). It turns out that sharks need squalene to survive in hypoxic conditions (an environment with very low oxygen content) deep enough in the sea.

Dr. Clair, a Nobel laureate, discovered that this natural unsaturated hydrocarbon biological compound lacks 12 hydrogen atoms for stability, so this unsaturated hydrocarbon tries to pull those atoms out of any compound. Due to the fact that the body has the most water, squalene reacts with water, absorbs hydrogens from it and creates free oxygen, providing oxygen saturation of tissues and organs. As a result, it rejuvenates body cells, eliminates free radicals, prevents the appearance and spread of oncological tumours, dramatically increases the stability of the immune system, and plays an important role in restoring human health. Among the many properties of squalene, it should be mentioned that it is a derivative of vitamin A,

and during the synthesis of cholesterol it turns into its biochemical analogue 7-dehydrocholesterol, and this substance exhibits radioprotective properties under the action of sunlight and forms vitamin D. In addition, vitamin A is better absorbed when dissolved in squalene. Since squalene is a natural component of the sebaceous glands of the human body, it has the ability to be easily absorbed by the body and accelerates the intake of beneficial substances contained in cosmetics into the body. For humans, squalene is necessary as an anticarcinogenic, antimicrobial fungicide and oxygen deficiency causes tissue damage, ageing of the body, and the appearance and development of tumours. It is squalene that is needed as a solution to this problem.

Squalene can be used for the prevention of once- and cardiological diseases, in the preparation of steroid hormonal preparations, and in cosmetics. Squalene, necessary for the pharmaceutical industry, is imported from the liver of sharks and whales. These substances are present in large quantities in amaranth oil (amaranth-8%, olive-0.7%), and this oil has medicinal properties necessary for humans. When the presence of phytosterols and other substances became clear to science, attention to amaranth oil increased dramatically. Amaranth oil contains more unsaturated fatty acids than saturated fatty acids. Vitamin E in the form of tocopherols in oil has an antioxidant effect and has the ability to reduce the amount of cholesterol in the blood. The oil also contains rutin and vitamin P, and has antimicrobial and fungicidal properties.

Currently, amaranth oil is used in the biosynthesis of cholesterol, oncological and cardiovascular problems, coronary disease, cleansing the body of radionuclides, salts of heavy metals, infectious diseases, herpes, psoriasis, vitiligo, neurodermatitis, eczema, atopic dermatitis, gastrointestinal ulcers, diabetes mellitus. It is widely used in diabetes mellitus, liver diseases, genitourinary colds, atherosclerosis, anaemia, beriberi, angina pectoris, hypertension, and as a means of dramatically increasing immunity.

Grain flour is 40-50 times more expensive than wheat flour on the world market. Add a small amount of amaranth flour to get delicious and healthy bread products. These products are the solution to several problems, such as boosting immunity and eliminating anaemia.

It is known that amaranth flour and leaves are of good quality and have useful nutritional value, amaranth oil is rich in iron, phosphorus, potassium, vitamins B1, B2, E and D, phospholipids, and phytosterols.

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