



MORPHO-BIOLOGICAL PROPERTIES OF AMARANTH

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Abstract

The article presents scientific information on the use of the amaranth plant in morphobiology, medicine and the food industry.

Keywords: amaranth, biological feature, pharmaceuticals, squalene, amaranth oil, trace elements, protein, vitamin.

Introduction

577 out of 4230 plant species in our country are recognized as medicinal. The amaranth plant has been known as a unique medicinal plant in our country since ancient times, and there is evidence of the widespread use of amaranth in the treatment of skin diseases (for example, measles, red rash), bad breath and other diseases during the time of Abu Ali Ibn Sina [1,2,3].

Amaranth oil in the biosynthesis of cholesterol in medicine; cleansing the body of radionuclides, salts of heavy metals; It is widely used in the treatment of infectious diseases, herpes, psoriasis, vitiligo, neurodermatitis, eczema, atopic dermatitis, gastrointestinal ulcers, diabetes mellitus, liver diseases, genitourinary colds, atherosclerosis, anemia, vitamin deficiency, angina pectoris, hypertension, oncological and cardiovascular diseases. Dramatically improves immunity, is an unsurpassed remedy in the fight against anemia [4,5,6].

The main part

Amaranth seeds are a source of oil and squalene. When it became clear to science that squalene, necessary for the pharmaceutical industry, is obtained from the liver of sharks and whales, these substances are present in large quantities (8%) in amaranth oil, and that this oil contains phytosterols and other substances that have medicinal properties necessary for human health, and attention to amaranth oil increased dramatically [7]. Amaranth oil contains 77% unsaturated fatty acids, 50% of which are linoleic and linolenic acids. Vitamin E in the form of tocopherols in oil has an antioxidant effect, has the ability to reduce the amount of cholesterol in the blood. The oil also contains rutin and vitamin P, has antimicrobial and fungicidal properties [8-13].

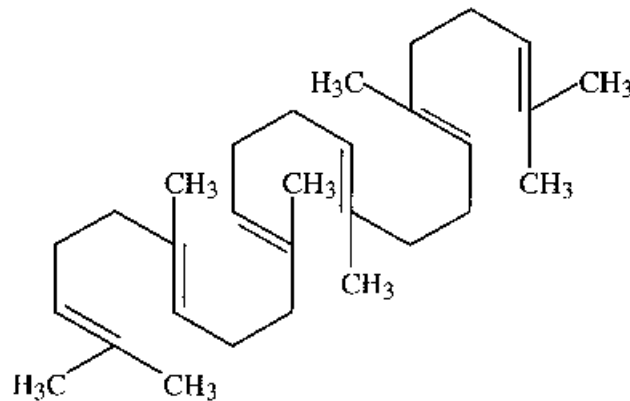


Fig. 1. Squalene

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 [14-19].

At present, amaranth oil is widely used for oncological and cardiovascular problems, ischemic diseases, body cleansing of radionuclides, heavy metal salts, infectious diseases, herpes, psoriasis, vitiligo, neurodermatitis, exema, atopic dermatitis, gastronomic liners, kernel, fried-ephys, fried-ephys, fried-ephys, fried-ephys, Ultheria, fried - efiza, fried. Oz, angina pectoris, hypertension and as a means of a sharp increase in 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.



Fig. 2. Medicinal amaranth oil

The amaranth plant is one of the most important issues to which our government pays special attention today, it is also important to increase the efficiency and productivity of animal husbandry, poultry farming, fisheries and, ultimately, provide the population of Uzbekistan with cheap and high-quality meat, milk, eggs, fish and other food products [18-22].

According to its biochemical composition, amaranth is a valuable plant for obtaining high-quality feed. Depending on the growth phase, the blue mass of amaranth (in terms of absolute dry weight) contains: crude protein 15.6-16.75%, fats 2.4-2.8%, coarse fibers 16.0-21.7%, calcium 2.1-2.6%, phosphorus 0.2-0.21%, carotene up to 200 mg/kg. For comparison: in the milking-hardening phase of corn, the blue grain mass contains 2 times less protein than amaranth, i.e. 7.5-8%.

Amaranth attracts the attention of agricultural workers, research practitioners due to its rich protein content, high productivity, a large amount of vitamins and mineral salts. It is considered the leading raw material not only for food and feed purposes, but also as an invaluable medicinal plant.

Its trunk leaves and grain husks are used as a valuable feed in animal husbandry. A large number of useful unique elements and a record level of protein in the composition ensure the rapid and healthy growth of lambs, calves and chickens,



dramatically increase the fattening of animals, increase the amount of cow's milk and the level of fat in it. Amaranth is well ensiled together with corn, which solves the problem of fodder throughout the year. A large amount of sugar in the pulp of corn and protein in amaranth makes the silage more nutritious.

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