

7. Analysis of integrated useage of sunflower seeds

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Introduction. The search for food protein reserves of plant origin for Ukraine leads to an analysis of the yield of oilseeds, in particular sunflower, which is the main oil crop in Ukraine and is one of the three most cultivated oilseeds in the world.

Materials and methods. Modern scientific and technical developments in the food industry are aimed at creating combined products of animal and plant origin. The production of combined meat products based on meat and vegetable proteins involves the mutual enrichment of their composition, increasing the biological value, improving the organoleptic characteristics of the finished product, reducing its cost.

Results. Proteins contained in other plants lack 2-3 or even more amino acids or their content is low. In sunflower seeds, except for lysine, the set of amino acids is complete.

Sunflower seeds are a source of prostaglandin, which is a stable protector of the mucous membrane of the stomach and intestines, protects them from ulcers. Sunflower contains about 30 mg per 10 g of vitamin E (tocopherol), other fat-soluble vitamins - A, D, contain vitamins PP, group B (B₁, B₂, B₃, B₆), as well as vitamin F, which is synthesized by the human body [1].

Sunflower seeds are important sources of vitamin B₆, which can be a preventive measure against diabetes. In 100 g of seeds its content is 1250 mg. Sunflower seeds contain tannins, carotenoids, phytin, citric and tartaric acid, carbohydrates. Sunflower is very rich in macro- and micro elements: calcium, iron, zinc and potassium. Iron in it is twice as much as in raisins, which are considered a rich source of this element. Of the most important minerals phosphorus and potassium, there is also a lot of magnesium. Important to support the work of human muscles, including the heart, is potassium, the content of which in 100 g of grains is 97, 98 mg. Other minerals: selenium, zinc, fluorine, sodium, silicon, manganese, chromium, copper, cobalt, iodine, molybdenum.

Seeds are a source of fiber, lecithin, easily digestible fats, fatty unsaturated acids. Sunflower is divided [2] into types by oil and protein content: oil-protein (oil type), and protein-oil (confectionery type) crops. The average values of the main important nutrients of the confectionery type of sunflower with a protein content –22 ... 26%, fat-40 ... 45% make it possible to characterize it as a powerful reserve of protein of plant origin. [3].

Conclusions. Thus, the useage of sunflower seed kernels in food production will attract and more fully use vegetable protein, which at best was sent for feeding cattle, but only after a year or two it returned to the food circle, increase the proportion of fatty acids, vitamins, phosphatides, which were lost during processing into oil, will reduce energy and material costs for obtaining complete food products.

References.

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