

**PROCESSING OF AGRICULTURAL PRODUCTS TO PRODUCE FOOD
HYDROGENATED FAT**

Djuraeva Nafisa Radjabovna

candidate of technical sciences, associate professor of “Food technology” department,
Bukhara Engineering-Technological Institute

Bakhtiyarov Sardorbek Bakhtiyarovich

candidate of technical sciences, senior lecturer of “Food technology” department, Urgench
State University

Khafizova Manzura Nematovna

engineer of the department of technical means of learning, Bukhara Engineering-
Technological Institute

Abstract: Agricultural production is the main industry of Uzbekistan, which is aimed at providing the population with food and raw materials for a number of industrial enterprises. Uzbekistan is an agricultural country that mainly grows cotton in its regions. Cotton is considered one of the main spinning crops throughout the world. Its fiber is used for the production of fabrics and cotton wool, its seeds for extracting oil in the food industry, and its oilcake as a high-protein feed for livestock. Cotton seeds of various varieties are processed at oil factories according to the “prepressing-extraction” scheme, and from 1 ton up to 4000 m² of fabric, 112 kg of cottonseed oil, 270 kg of oilcake, 170 kg of husk and 8 kg of lint are obtained; besides, hydrogenated fat, oil varnish, glycerin and other products are obtained. Cotton stalks are used as fuel in the cardboard industry.

Cotton seeds are divided into four grades: I - obtained from the processing of first grade cotton, II - obtained from the processing of second grade cotton; III - obtained from the processing of third grade cotton; IV - obtained from the processing of fourth grade cotton.

Consumption of products processed from cotton seed is growing every year, the assortment of products is expanding, and the quality is improving. Since cottonseed oil is the most common type of food oil in Uzbekistan, is widely used in the nutrition of the population. Due to its composition, cottonseed oil is physiologically very active; its nutritional value is determined by the content of polyunsaturated acids in it, which are necessary for the human body to build cells [1, 2].

Hydrogenated fat is a solid fat obtained in the food industry by hydrogenation of vegetable oils. The production of hydrogenated fat was widely introduced in the USSR to meet the needs of population for an assortment of fat products. The industry produces technical and food hydrogenated fat. Food hydrogenated fat is the most widespread. Food hydrogenated fat is used in the production of margarines, spreads, soaps, cooking and confectionery fats [3].

Up to 4,200 tons of food hydrogenated fat based on cottonseed oil are produced in Uzbekistan annually, and are distributed for the production of the following assorted products: margarine 2,300 tons (55%), spread 642 tons (15.3%), soap 760 tons (18%), confectionery fat 340 tons (8%) and cooking fat 158 tons (3.7%), which are shown in Fig. 1 [4, 5].

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Distribution of the food hydrogenated fat on productions

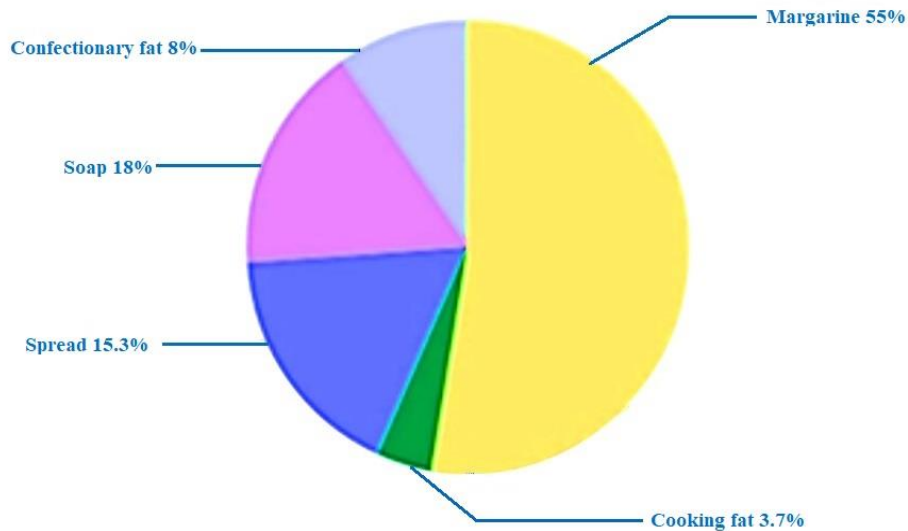


Fig. 1. Distribution of food hydrogenated fat by production in the Republic of Uzbekistan

The main direction of industry of the production of food hydrogenated fat based on cotton hydrogenated fat is the production and distribution of the resulting product for food production. Processing of the cotton seeds allows compensating for existing differences in the supply of fatty products to the population of different regions of the country.

The caloric composition of the resulting food hydrogenated fat allows the production of other fatty food products in an assortment, in addition to the main product [6].

Rational nutrition is a nutrition of person that considers his physiological needs for energy supply, beneficial nutrients proteins, fats, carbohydrates, vitamins, minerals, microelements, and other useful substances based on data on age, diseases, physical activity, employment and the environment.

When spending energy on activities and getting it from food, the person needs a balance to prevent excess energy reserves in the form of fat deposits. All fats obtained using food hydrogenated fat have a high energy value, which means they have a high calorie content. Excess fats, which are rich in saturated fatty acids, provoke indigestion, lead to poor absorption of proteins, and also contribute to the development of obesity, diabetes, cardiovascular and other diseases. It should be noted that it is impossible to give up fats, since insufficient intake of fats into the body can cause harm, lead to disruptions in the gastrointestinal tract, nervous system, weakened immunity, and contribute to the development of atherosclerosis and thrombosis [7, 8].

Analysis of the range of fatty products obtained from the processing of cotton seeds in recent years allows concluding that the main trend in the market is still the maximum reduction in the cost

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of products. This is realized, first of all, through the use of technology to produce cheap fat products with many types of assortments.

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