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Improvement of Soybean Processing Technology and Safety Criteria

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Annotation: The article aims to improve the processing technology and safety criteria for growing soybeans. Since soy processing can be used to produce oil, confectionery, and even pharmaceuticals, the issues of improving them have been discussed.

Key words; Soy, protein, fat, technical, safe, rural.

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At the initial stage of economic reforms in Uzbekistan, great attention is paid, first of all, to the reform of agricultural production. Due to the attention paid to the sustainable development of agriculture, in recent years we have been able to maintain our potential for the production of material goods. At present, we have not been able to fully realize our huge potential in the agricultural sector of the economy. In order to reform the agrarian relations, it is necessary to pay attention to the reorganization of the structure of agricultural enterprises, the development of technology and safety criteria for the cultivation and processing of agricultural products.

The urgency of the topic chosen for the article is that in order to further strengthen the food base in the country, first of all, it is necessary to improve the cultivation of high-protein, carbohydrate and high-energy crops, transfer them to intensive, industrial technologies and select new crops. Of these, of course, special attention should be paid to the soy plant.

Soybean is a valuable food plant and is widely used for technical purposes. It contains up to 35-45% protein, 20-22% fat and 25% carbohydrates. 1 kg of soybeans contains 275 grams of digestible protein. No plant can compete in the soybean with its protein richness and nutrients. One of the most important properties of soy protein is that it contains more than the amino acid lysine. 100 grams of soy protein contains 6 grams of lysine. It is quickly digested in the body and is biologically very similar to meat and milk protein.

Soy (Glicine hispida maxim) is a heat-loving plant, which is one of the most important legumes in our country, after soybeans, rice and corn. More than four hundred different products are made from soybeans and protein. Its grains contain up to 45% protein and up to 25% vegetable oil, rare amino acids in animal protein. Eco-friendly quality oil from soy protein, egg powder containing lecithin, blood plasma, quality lenses for glasses are obtained. In addition, woolen fabrics are produced. It is difficult to distinguish them from real woolen fabrics. In animal husbandry, soy products are the

highest quality and nutritious feed, and according to the protein content, 100 kg of soybean grain retains 134.8 feed units. This figure is not found in any other cereal or legume crop. Its dry stalks are also more nutritious than alfalfa hay. The soybean meal left after the oil was extracted from the plants contained 14 different amino acids, which were widely used in poultry. Soy protein is also a unique food for silkworms. In Japan, where silkworms are fed five times a year, diluted pastes made from soy protein are used. The first work in this direction is being carried out in our country as well. This plant is of great importance in increasing soil fertility. Its use in crop rotation is very effective.

It enriches the soil by absorbing pure nitrogen from the air through the soybean roots. During growth, the plant leaves a certain amount of nitrogen, both for itself and for the next plant. In other words, it improves the composition of the soil and increases the activity of biological processes. ¬A favorable environment for worms, rhizobium bacteria and other beneficial organisms to live. Another advantage of soybean is that if it is planted as a secondary crop, it is possible to get twice as much grain from one place and enrich the soil with organic matter. At this time we get an additional 400-450 kg of nitrogen and 300-350 kg of vegetable oil per hectare.

Soybean also plays an important role in ensuring food security. Oil plants in the country extract oil directly from soybeans. Once the fat is separated, the insulation can be used to make chocolate candies in the confectionery industry or used directly in the preparation of various biscuits, breads and bakery products. It is also used in the preparation of sausage products. Breads and biscuits with soy flour are 2-3 times more nutritious due to their high protein content.

That is why soy processing technology is of scientific importance. Its grain is one of the most valuable crops because it contains 50% protein and up to 28% fat. Today, more than 400 different products are produced from soybeans, which are necessary for the national economy. Dani is an environmentally friendly quality raw material used in the food industry. 35% of the vegetable oil consumed by the population, which does not contain harmful substances, is obtained from soybeans. Once the oil is separated, soy isolate is formed and its protein content reaches 75 percent. It is used to make baby food, biscuits, bread additives, proteins for the sausage industry, products for the confectionery industry (decaffeinated chocolates), coffee and its substitutes. In the industry, linoleum is obtained from the highest quality and most expensive car paints. One kilogram of soybeans produces 4 liters of milk for humans and 8 liters for calves, as well as all the products of animals - milk, yogurt, cottage cheese, cheese, meat (sheep, beef, chicken, goose). It can be said that a Chinese family does not have the opportunity to raise and tie a cow, but it does meet the needs of its family by making milk from soybeans.

All existing oil refineries in the country have developed technology for processing soybean oil, and they have great potential in this regard. In the developed world of China, with a population of more than a billion people, Japan, Korea and other countries, where arable land is extremely scarce, the population's protein needs are met mainly by protein derived from soybeans.

Another feature of this plant is that it belongs to the legume family, leaving 55-60 kg of pure nitrogen in the soil. Today, the issue of restoring or maintaining soil fertility in our country remains a topical issue. There is no need to apply large amounts of mineral fertilizers to the field during the growing season, as the plant itself is able to absorb and use nitrogen from the air. In terms of arable land, it ranks 4th in world agriculture after wheat, rice and corn. The gross grain harvest will reach 220.64 million tons. While Brazil, the United States and Argentina are the leading exporters of soybeans, the main buyers are our neighboring neighbors China, Korea and other Asian countries.

Processing of soybean seeds requires the following technological processes: crushing of seed shells, separation of crushed shells from the skin, crushing of kernels, roasting of crushed kernels after initial wetting, shredding of roasting material, extraction of oil left in the bag.

These technological processes can be divided into two stages:

- Preparation of seeds for fertilization and extraction; In this case, the core type is separated from the shell and mixtures.
- Shibbling or extraction; In this case, the crushed core is extracted from soybean oil by steam heating and crushed in auger sieves. 4% to 5% of oil remains in the sludge from the sludge. The soybean oil separated from the core is filtered.

In the extraction method, the oil is extracted from the mass from the auger by the action of a solvent (benzine or dichloroethane) in the extractors. The extracted oil is distilled and purified. The extracted oil is used in the food industry, the extracted oil is used in engineering.

The color of the oil obtained from the soybean is light yellow and the smell is fragrant. It contains 60-65% linolate and linolenic fatty acid. The quality of vegetable oil is determined by its appearance and physical properties, chemical composition. An average sample (0.5l.) Is obtained by mixing it to determine the quality of the oil. It is also possible to determine the quality of the oil by indicators such as soaping and iodine content.

In conclusion, given the importance of soybean cultivation and processing in the economy of our country, it is expedient to study this area in depth and implement scientific results in practice.

References:

1. Arutyunyan N.S., Arisheva E.A., Yanova L.I. and others Technology of processing of fats. - M.: Agropromizdat, 1985.- 368 p.
2. Guidelines for the technology of obtaining and processing vegetable oils and fats. / Ed. A.G. Sergeeva et al. –L.: VNIIZh.- vol. II, 1973, 350 p. Vol. III, book. 1, 1983, 288s .; vol. IV, 1975.544 p. V, 1981, 296 p .; t. VI, 1989, 360 p.
3. Schmidt A.A. Theoretical foundations of vegetable oils refining. –M,: Food industry, 1976. – 136 p.
4. Salimov Z. Basic processes and devices of chemical technology. T. 1. –T.: Uzbekistan, 1994. -366 p.
5. Muhiddinovich, B. I. (2020). Negative impact of the tax system on political life-on the example of the history of the Kokand Khanate (1850–1865). ACADEMICIA: An International Multidisciplinary Research Journal, 10(5), 790-795.
6. Xatamova, Z. (2021, June). EXPENDITURE OF INCOME FROM TAXES AND LEVIES IN THE KOKAND KHANATE. In Конференции.
7. Burkhonov, I. M. (2020). "ZAKAT" HAS ENSURED FAIRNESS AND BALANCE IN SOCIETY. Theoretical & Applied Science, (5), 201-204.
8. Xatamova, Z. (2020). Expenditure of state funds replenished by taxes in the history of the kokand khanate. EPRA International Journal of Research and Development (IJRD), 5(3), 274-277.
9. Burkhonov, I. (2021, June). THE IMPORTANCE OF THE SCIENTIFIC HERITAGE OF ASOMIDDIN URINBOYEV IN THE STUDY OF THE HISTORY OF THE KOKAND KHANAT. In Conference.