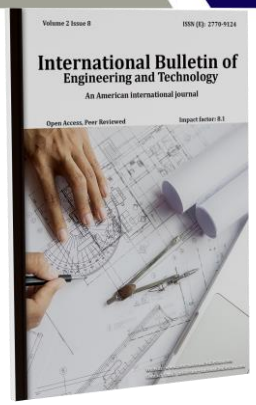

ANALYSIS OF REQUIREMENTS APPLIED TO COTTON SEED OIL PRODUCTION PROCESSES

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Today, there is a high level of growth in the cottonseed oil production industry in the world, and the oil industry is one of the leading branches of the food production industry.

Cotton is a profitable plant. 30-40% of fiber, 60-70% of seeds and lint are obtained from its raw materials. The seed contains 20-22% oil, 45-50% kunjara, 25-30% shelukha. 100% of products are obtained from cotton leaves, stem and bark, 50% from fiber, 45% from seed. Cotton products are used in textiles, chemistry, aviation, medicine, automobile industry, fisheries, and animal husbandry.

For example: 7-8 thousand meters of gauze from 3 tons of cotton fiber, 277 kg. cottonseed oil, 726 kg. weight, 47 kg. soap, 108 kg. fluff, 240 kg. seed is taken. Even the ash of cotton is used to improve the skin and fight against harmful insects.

Cotton seed is also an extremely valuable product. Part of the seed from which the fiber is separated is used for planting, and the main part is used for obtaining various products, especially oil.

Seed oil is used for food as well as for technical purposes. Refined seed oil is widely used in the canning industry. It is also used in the preparation of margarine, laundry soap, perfume soap, technical oil, alif. Glycerin, stearin and several other products are obtained from seed oil.

The rapid development of the cotton oil production industry in the world gives great importance to the researches of preparation of cotton raw materials, improvement of processing processes, creation of techniques and technologies that meet the requirements of the time. In particular, great scientific and research work is being carried out on energy saving and increasing the volume of oil output in the devices where the processes of separating the seeds are carried out.

After gaining independence in our republic, special attention was paid to the improvement of the technological processes of processing agricultural raw materials and the introduction of energy-resource-saving machines and devices, including the introduction of technologies for the production of cotton oil based on local raw materials and the creation of modern machines and devices for processing products. 'attention is being paid. Certain scientific and practical results have been achieved in this field. Priority directions of economic development and liberalization are defined in the Action Strategy for further development of the Republic of Uzbekistan. Accordingly, scientific and research work aimed at creating effective, energy-saving methods and technologies for the production of cotton oil that meets the requirements of the world market, reducing the duration of processes and producing finished products is being carried out.

Decree of the President of the Republic of Uzbekistan No. PQ-4118 dated January 16, 2019 "On additional measures for the further development of the oil industry and the introduction

of market mechanisms in the management of the sector", 2018 PQ-3484 of January 19 "On measures for the rapid development of the oil industry", PQ-3680 of April 26, 2018 "Measures to further ensure the country's food security" on", decree and decisions No. PF-4947 of February 7, 2017 "On the strategy of actions for the further development of the Republic of Uzbekistan" and other regulatory legal documents related to this activity This research serves to a certain extent the implementation of the specified tasks.

Requirements for production processes of oil products

1. Production buildings (workshop, warehouse, department and other buildings) and technological equipment used in the production of oil and oil products must be in a condition that excludes contamination of raw materials, semi-finished products and finished oil and oil products. need

2. In the processes of production (preparation) of nutritional oil products related to safety requirements, manufacturing enterprises must develop and implement procedures based on the principles of XACCP (Hazard Analysis and Critical Control Points) by January 1, 2022 and ensure their implementation .

3. The technological processes of the production of oil-oil products must be carried out in accordance with the procedures and conditions established in the normative documents in the field of technical regulation in order to prevent contamination of raw materials, semi-finished products and finished products.

4. Enterprises producing oil products must undergo an environmental impact assessment in accordance with the procedure established by legislation and comply with environmental standards approved by the competent authority.

5. Raw materials, ingredients, nutritional additives, and technological tools used in the production of oil products must meet the requirements of regulatory documents in the field of regulation from a technical point of view.

6. The safety of oil products in the production process must be ensured as follows:

a) selection of technological processes and methods of their implementation at all stages (departments) of production of oil-oil products;

b) choosing an optimal sequence of technological processes that excludes contamination of the produced nutritional oil-oil products;

c) control the operation of technological equipment;

g) to ensure the safety of raw materials and nutritional additives necessary for the production of oil products;

d) keeping oil-oil products production buildings, used technological equipment and equipment in conditions that exclude contamination of edible oil-oil products;

e) selection of methods and sequence of sanitary cleaning, disinfection, disinsection and deratization of production buildings, sanitary cleaning and disinfection of technological equipment and equipment used in the production of oil products. The sequence of sanitary cleaning, disinfection, disinsection and deratization of production buildings and technological equipment should be determined in a time interval that excludes the risk of contamination of oil and oil products. The sequence of cleaning is determined by the manufacturer;

j) maintaining and maintaining documents confirming compliance with the requirements of this Technical Regulation.

7. In order to ensure the compliance of oil products with the requirements of this Technical Regulation, the manufacturer must prepare a production control program and organize the specified control for compliance with the specified requirements.

Production control for compliance with the requirements of this Technical Regulation should include:

a) the list and standards of the controlled parameters related to compliance with the requirements for oil-oil products specified in this Technical Regulation;

b) information on production control measures and their periodicity (the periodicity of tests on safety indicators is determined based on the requirements of regulatory documents on the product, but not less than 1 time per quarter);

c) list and values of safety control parameters of raw materials and food additives, packaging materials, finished products.

Machines and apparatuses with complex construction and high energy consumption are being used in cottonseed oil production plants.

Accordingly, the introduction of intensive methods, the creation of modern techniques and technologies necessary for the production of cottonseed oil is of scientific and practical importance.

References:

1. Shcherbakov V.G., Lobanov V.G., Biochemistry and commodity science of oilseed raw materials. - M.: KolosS, 2012. - 360 p.

2. Electronic source: https://znaytovar.ru/new1000.html

3. Beloborodov, V.V. Basic processes for the production of vegetable oils / V.V. Beloborodov. – M.: Food Industry, 1966. – 478 p.

4. Source: https://znaytovar.ru/new1000.html

5. Technological regulations for the production of unrefined cottonseed oil TR 18121-3-120-14.

6. Guide to the technology of obtaining and processing vegetable oils and fats. Edited by Sergeeva A.G. -L.: VNIIZH, 1975, vol. 1, book 1,

7. Electronic source: http://oilpresszvad/work/.rf.oilpresses-screw-for_squeezing/

8. Electronic source:
https://oil-filters.ru/filter-presses

9. Akselrud G.A., Lysyansky V.M. Extraction (solid-liquid system).-L.: Chemistry, 1974.- p.7

10.Techniques and technologies for the production and processing of vegetable oils: textbook / S.A. Nagornov, D.S. Dvoretsky, S.V. Romantsova, V.P. Tarov. – Tambov: Publishing house of the State Educational Institution of Higher Professional Education TSTU, 2010. – 96 p.