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Functioning and Development of The Domestic Market of Oil and Fat Products of Uzbekistan

[1]S.Sh. Ismatov, [2]S.A. Abdurakhimov, [2]F.G. Mamatkulov

[1]Ph.D., Associate Professor, Bukhara Engineering and Technology Institute, Bukhara, Uzbekistan.
[2]Doctor of Technical Sciences, Bukhara Engineering and Technology Institute, Bukhara, Uzbekistan.

Abstract: *The article discusses the effective development of oil and fat products in Uzbekistan, as part of the food market, is a necessary factor in food security. Uzbekistan as a whole fully provides itself with vegetable oil and is its major exporter. The advantage of Uzbekistan is that, in fact, its entire territory is suitable for growing oilseeds.*

Keywords: oil, food security, growing oilseeds, cotton seeds, oil-containing products.

Introduction

In fact, oilseed crops are in demand in the Central Asian market in every region. Products of the oil and fat industry in Uzbekistan are deep-processed products and multifunctional. A feature of the domestic oil market is the species diversity of its constituent markets. Uzbekistan presents a different assortment of oil and fat products of domestic and foreign manufacturers. Both large agricultural holdings and small producers and processors work in this market. The purpose of the study is to, based on the study of indicators characterizing the current state of the Uzbekistan oil and fat products market, comparing the situation and the existing experience of large processors, determine the measures for the further effective and competitive development of this market for the long term.

Materials and methods

In the research process, abstract logical, monographic, economic and statistical methods were used. In a competitive environment, in order to stay on the market, oil and fat organizations form their structure in the form of vertically-integrated diversified formations, which, in addition to processing plants, include agro-industrial organizations, logistics divisions - transport, elevators, trading houses. For the development of the oil and fat products market, it is necessary to increase the domestic competitiveness in high-tech, use innovative technologies, develop exports, and seek new markets. The results can be further used in the development of long-term regional development programs.

Conclusions and suggestions of budugs contribute to the formation of a competitive mechanism for the functioning and development of the domestic oil and fat products market. [1]

State Program for the Development of Agriculture until 2030 provides for intensive agricultural development to ensure the achievement of the share of domestic products established by the Food Safety Doctrine in total resources, to increase the gross yield of oilseeds and in particular cotton seeds and the production of vegetable oils up to 80%.

In connection with the entry of Uzbekistan into the WTO, the competition between manufacturers not only in Uzbekistan but also in foreign ones is intensifying, and the period for introducing scientific and technical developments is decreasing. [2]

Therefore, the implementation of the State Program requires the introduction of various and innovative developments, which will be aimed primarily at improving the quality of high-volume products, and in particular oil and fat.

The oil and fat industry today is called upon not only to provide the population and other food processing industries with high-quality oils and oil-containing products, but also to provide more and more raw materials to non-food industries - perfumes, cosmetics, pharmaceuticals and such areas of application of fatty raw materials as biofuel production, various greases, higher fatty oils acids, glycerin, paints and varnishes, etc.

Today, scientific research and other universities in Uzbekistan are carrying out large-scale scientific support of the oil and fat complex, which is carried out in the areas of both the development of technological processes for the extraction of oils and a wide range of oil and fat products based on them that meet modern physiological requirements.

- In addition to technological factors, the geography of the location of lipid-containing spherosomes and protein bodies in the cell also affects the speed and depth of oil extraction.

Depending on their location (in the center, along the periphery or their uniform dispersion over the entire volume of the cell), the formation of the capillary-porous structure of the material under the influence of technological factors depends and ultimately determines the rate and sequence of destruction of lipid-containing spherosomes by white bodies and, accordingly, the rate of oil extraction.

The main patterns are:

- change under the influence of technological factors of oil localization along the pore length of the capillary-porous system of the structure until it comes to the surface;
- selectivity of absorption by pores and capillaries of substances distributed on the inner surface of pores of different diameters.

Vegetable oil is a multicomponent mixture of substances of different structure and polarity, so the redistribution of oil

components occurs in decreasing order of their polar properties. It is known that during extraction, oil passes through the pores and capillaries of the capillary-porous structure of the seed, during which it acquires a higher peroxide value. This is due to the fact that pores and capillaries of the structure contain active oxygen, which interacts with oil and oxidizes it. Moreover, the larger the pore volume, the greater the amount of gaseous oxygen located in the pores and capillaries of the oil-containing material and the higher the possibility of oil oxidation when it passes through the structure under the influence of technological factors. [1]. The amount of oxygen localized in the pores and capillaries of the seed is sufficient so that even in the process of grinding at a pressure of 260 g / cm even the highest quality oil, which is in the seed in a bioprotected state (in spherosomes) and, accordingly, in the initiation stage, would react with oxygen and the oxidation process would shift to the stage of an uncontrolled linear induction period, for the occurrence of which the presence of only oxygen is sufficient.

Therefore, oil extraction technologies must be implemented in such a way that inert gas is present in the pores and capillaries of the material before extraction. Our task is to obtain oil with a content of hydroperoxide radicals corresponding to their level during the initiation period. Then the extracted oil will have high oxidation stability, since the amount of natural antioxidants contained in it is designed to block radicals only at the initiation stage. However, their influence when using classical technologies is not effective enough, since the oil very quickly passes through the initiation stage during extraction, passing into the induction period.

Result and discussion

Refining vegetable oils and fats is one of the most important technological processes of fat processing. Refining technology, namely, alkaline neutralization of raw cottonseed oil, consists of a complex of complex physical, chemical and physico-chemical processes, on which physicochemical characteristics and quality indicators of refined oil mainly depend. Technological modes of yield and quality indicators of refined cottonseed oil are also due to the nature and method of production of crude oil, the composition and quantitative content of foreign impurities, as well as related substances [3]. The selection of an effective adsorbent for the refinement of cotton salomas requires a thorough study of its mineral and chemical composition, as well as structural properties. We determined the optimal technological regimes for the partial neutralization of raw cottonseed oil, which ensure the maximum removal of phospholipids, gossypol and its derivatives, tocopherols from the feedstock at the stage of preliminary refining. The technique and technology of refining fats is constantly being improved. Refining production is equipped with modern high-performance equipment of continuous operation, due to which the capacity of the workshops increases and labor costs are significantly reduced [2].

For the alkaline neutralization of raw cottonseed oil, sodium hydroxide solutions with various concentrations and excesses are mainly used as the alkaline agent. Refining of crude prepress and extraction cottonseed oil occurs at high concentrations and an excess of alkaline sodium hydroxide solution. This refining technology is accompanied by a low yield of final products, as well as a significant consumption of material and technological resources. Along with this, the oil and fat industry of the republic is experiencing a deficiency of sodium hydroxide due to its high cost. Taking this into account, in recent years, improved technological processes have been proposed for the alkaline neutralization of raw cottonseed oil using new types of alkali-replacing chemicals [3]. In this direction, a special place belongs to the use of alkali carbamide and other solutions. However, the technological processes for the purification of raw cottonseed oil by these types of alkaline reagents are also not without separate drawbacks.

Conclusion

Thus, on the basis of the processed reagents, the technology for alkaline neutralization of raw cottonseed oil has been intensified and improved in the EMF. Therefore, the range of tasks facing scientists and experts in the oil and fat industry is quite wide. In order to implement promising innovative projects, strengthening of fundamental research is supposed.

References:

1. Technology of processing fats / N.S. Harutyunyan, E.11. Korneva et al. - 2nd ed., Rev. and add. // M .: Pishchepromizdat, 1998 .-- 452 p.
2. Research of changes in the quality indicators of bleached cottonseed oil and its products / S.Sh. Ismatov, Mamatkulov F.G. // Austrian Journal of Technical and Natural Sciences Scientific No. 3-4, 2019 (March-Arril) p 16-20.
3. Technologies for pre-refining cotton 'oil processing alkali solution in EMF /
S.Sh. Ismatov, Khayrilloev M.K. Zhurn. Issues of Science and Education No. 1 (2), 2017, Moscow 2017 pp. 47-48.