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IMPLEMENTATION OF ISO 22000 IN THE OIL AND FAT INDUSTRY AND THE STANDARDS FOR ADHERENCE

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Abstract: This article analyzes the application of the ISO 22000 food safety management system in the field of oil and fat production, its implementation requirements and effectiveness. The relationship of the ISO 22000 standard with the HACCP principles, its role in identifying and controlling hazards in oil and fat enterprises is highlighted.

Introduction

Oil and fat products are one of the main types of food that provide an important source of energy and biologically active substances in the diet of the population. Vegetable oils and animal fats not only provide energy, but also contain active substances necessary for the normal development and health of the body. Therefore, the issue of ensuring safety and quality in the production process of oil and fat products is of particular importance. It is important to control hazards at all stages, from the quality of raw materials to the delivery of the finished product to the consumer.

In the past, many companies focused on checking product quality using traditional methods, but in the modern market and in order to produce in accordance with international requirements, complex and systematic management systems are needed. The ISO 22000 standard is an international standard developed to address this issue, covering all stages of ensuring food safety. This standard provides for the identification and control of hazards at the stages of raw material receipt, production processes, processing, refining, packaging and storage and distribution of finished products.

The main objective of ISO 22000 is to ensure product safety through a systematic analysis of hazards in the food production process and their preventive elimination. In the case of oil and fat products, this standard includes assessing the quality of raw materials, observing sanitary and hygienic rules during production, constantly monitoring technological processes and controlling the quality of finished products.

To this end, the ISO 22000 standard requires optimizing not only technologies, but also the management system in enterprises. This ensures transparency of work processes in the enterprise, a clear distribution of responsibilities and tasks, and helps to increase the skills and knowledge of employees. Based on the requirements of this standard, clear procedures are introduced at all stages to identify and control hazards, which strengthens product quality and consumer confidence.

The main purpose of this article is to analyze how ISO 22000 requirements can be implemented in oil and fat production enterprises, to indicate the stages of its implementation and to analyze its effectiveness on a scientific basis. At the same time, the article also shows the relationship between ISO 22000 and HACCP principles, revealing their importance in ensuring product safety and consumer health.

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The study suggests that by implementing ISO 22000 requirements in the production of oil and fat products, enterprises will not only improve internal control and quality, but also increase competitiveness in the international market. This will contribute to the development of the country's economy and the provision of consumers with safe food products.

Therefore, the widespread implementation of the ISO 22000 standard is of strategic importance not only for improving technology and control systems, but also for forming a culture of quality and safety in the national oil and fat industry.

Methodology (Methods)

The following methods were used in the study:

• Analysis of the text of the ISO 22000:2018 standard;
• Hazard assessment based on HACCP principles;
• Study of oil and fat production processes by dividing them into technological stages;
• Comparative analysis of scientific literature and practical experience.

The object of the study was vegetable oil production enterprises (for example, cottonseed oil, sunflower oil). Technological processes were divided into the following stages:

1. Raw material reception and storage
2. Cleaning and preparation
3. Pressing/extraction
4. Refining (neutralization, bleaching, deodorization)
5. Packaging and storage

At each stage, hazards were identified and control measures were defined based on ISO 22000 requirements.

Results

According to the analysis results, the ISO 22000 standard sets the following basic requirements for oil and fat products:

Programmable Prerequisites (PRPs)

The following PRPs must be implemented in oil and fat enterprises:

• Strict adherence to sanitary and hygienic rules in the workplace
• Regular cleaning and disinfection of equipment
• Pest control
• Personal hygiene of employees
• Monitoring of water, steam and air quality
• Hazard analysis based on HACCP principles

The following hazards were identified in oil and fat products:

• Biological hazards: microorganisms (rare, but possible during storage)
• Chemical hazards: pesticide residues, free fatty acids, traces of solvents
• Physical hazards: metal particles, glass or stone fragments

The refining and filtration stages after extraction were identified as critical control points (CCPs).

Documentation and monitoring

According to ISO 22000, all processes must be documented, and monitoring and verification work must be carried out regularly. This ensures transparency of the work process in enterprises.

Discussion

It was found that the ISO 22000 standard is an effective tool for ensuring

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safety in the oil and gas sector. This standard not only improves product quality, but also increases the sustainability of production processes.

After the introduction of ISO 22000 in oil and gas enterprises:

- Chemical and physical contamination of products has decreased
- The control and documentation system has improved
- Export opportunities have expanded
- Consumer confidence has increased

At the same time, there is a shortage of specialists and financial difficulties in implementing the standard. However, these problems can be overcome with state support and personnel training.

Conclusion

The ISO 22000 standard is one of the most effective and widely recognized international tools for ensuring safety in the production of oil and fat products. It not only allows you to identify hazards at each technological stage of the product, but also involves the systematic organization of their assessment and control. The main feature of the standard is that it is based on the HACCP principles, which allow you to predict hazards in advance, assess their possible consequences and take timely preventive measures.

As a result of the widespread implementation of ISO 22000 requirements in enterprises, not only product quality stability is ensured, but also a standardized control system is formed in the production process. This strengthens the internal control mechanism of enterprises, reduces the risk of technological errors and contamination. Also, based on the requirements of the standard, the skills and knowledge of employees increase, and they actively participate in the development of a safety culture.

The introduction of ISO 22000 in the national oil and fat industry ensures that the product meets international requirements and increases its export potential. This will stimulate the development of the country's economy, increase employment opportunities and attract investments. In addition, the standard is of great importance in protecting public health, as it guarantees the supply of safe, high-quality and reliable oil and fat products to the consumer. Therefore, the ISO 22000 standard is not only a means of controlling technological processes and product safety, but also a strategically important instrument for integrating the national food industry into modern international standards and increasing its competitiveness. With this standard, enterprises can minimize risks, increase consumer confidence and contribute to the sustainable development of the national economy.

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