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CURRENT CHALLENGES OF SCIENCE AND EDUCATION



**PROCEEDINGS OF VII INTERNATIONAL
SCIENTIFIC AND PRACTICAL CONFERENCE
MARCH 11-13, 2024**

**BERLIN
2024**

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Proceedings of VII International Scientific and Practical Conference

Berlin, Germany

11-13 March 2024

Berlin, Germany

2024

UDC 001.1

The 7th International scientific and practical conference “Current challenges of science and education” (March 11-13, 2024) MDPC Publishing, Berlin, Germany. 2024. 313 p.

ISBN 978-3-954753-05-5

The recommended citation for this publication is:

Ivanov I. Analysis of the phaunistic composition of Ukraine // Current challenges of science and education. Proceedings of the 7th International scientific and practical conference. MDPC Publishing. Berlin, Germany. 2024. Pp. 21-27. URL: <https://sci-conf.com.ua/vii-mizhnarodna-naukovo-praktichna-konferentsiya-current-challenges-of-science-and-education-11-13-03-2024-berlin-nimechchina-arhiv/>.

Editor

Komarytskyy M.L.

Ph.D. in Economics, Associate Professor

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e-mail: berlin@sci-conf.com.ua

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VETERINARY SCIENCES

UDC 619:614.31:636.085/.087.7:57.083.1:637.1/.5

GENERAL PRINCIPLES REGARDING THE IMPLEMENTATION OF THE TRACEABILITY SYSTEM IN FEED AND FOOD CHAINS

Bogatko Nadiia

Doctor of Veterinary Sciences, Professor
Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine

Mazur Tatiana

PhD in Veterinary Sciences, Associate Professor
Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine

Bukalova Nataliia

PhD in Veterinary Sciences, Associate Professor
Bila Tserkva National University, Bila Tserkva, Ukraine

Prylipko Tetiana

Doctor of Agricultural Sciences, Professor
Podolsk State Agrarian Technical University
Kamyanets-Podilsky, Khmelnytsky Region, Ukraine

Bogatko Aliona

Assistant of the Department of Epizootology and Infectious Diseases
Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine

Introduction. The traceability system is a set of data and operations capable of maintaining identification information about a food product/feed and its components throughout the food chain of production and consumption [1]. Ensuring by market operators the production of safe food products for consumers and feed for animals is an urgent issue in the development of the food industry of Ukraine. This is the most important task of manufacturers of all countries that care about the health of the nation and the proper standard of living of citizens, it is especially important when Ukraine joins the WTO and its subsequent entry into the European Union, as well as when harmonizing national legislation in accordance with international requirements and implementing measures for the gradual implementation of the safety

management system at food and feed production facilities - the HACCP system. The adaptation of the legislation of Ukraine to the legislation of the European Union is a priority component of the process of integration of Ukraine into the EU. Protection of health and life of people and animals is defined as one of the main directions.

Key words: traceability system, HACCP system, fodder and food chains, safety, food products, feed.

The Law of Ukraine "On Basic Principles and Requirements for the Safety and Quality of Food Products" stipulates that market operators are obliged to ensure compliance with hygienic requirements for food products at all stages of their production and circulation; develop, implement and apply permanent procedures (GMP, GHP) based on the principles of the HACCP system, as well as provide adequate training on the application of permanent procedures based on the principles of HACCP of the persons responsible for these procedures, during the production and circulation of food products and feed [4, c. 23]. To ensure the safety of food products and the reliability of food/feed information, ensure traceability, prevent the circulation of unsafe, unfit for human consumption and mislabeled food and animal feed [7, c. 48].

The **material** for research was national and European legal acts, which are governed by food market operators for the implementation of the HACCP system and the traceability system [6, c. 25; 9, c. 9].

The **purpose of the work** was to analyze the general principles and basic requirements for the development and implementation of the traceability system in feed and food chains.

Results and discussion. Globally, consumer concerns about food safety are growing. Food producers must be aware that the safety of food depends on other participants in the food chain. It is necessary to create the effectiveness of an effective mechanism for exchanging data obtained using the HACCP system between all participants of the food chain [2, c. 39].

In the EU countries, a number of initiatives to improve the mandatory

procedures for ensuring the safety of food products have been introduced into the current international food legislation - the mandatory principle of controlling hazards in food products throughout the food chain "from farm to table". Another fundamental principle of European food and feed legislation is the mandatory implementation of a "traceability system", without which it is impossible to fulfill the basic principle of preventing hazards in food and feed chains [1, c. 3; 3, c. 6].

Article 22 of the Law of Ukraine "On Basic Principles and Requirements for the Safety and Quality of Food Products" stipulates that market operators must be able to determine how other market operators supply them with food products and other objects of sanitary measures based on the "step back" principle. Market operators must be able to identify other market operators to whom they supply foodstuffs and other objects of sanitary measures on a step-ahead basis [4, c. 32]. The requirements for market operators to ensure traceability do not require them to establish a connection (so-called internal traceability) between objects of sanitary measures used during production and objects of sanitary measures obtained as a result of such production. Market operators must apply systems and procedures that ensure the availability of such information to the competent authority upon its request. The information must be stored for 6 months after the expiry date of the final sale of the food product marked on the label [2, c. 7].

In order to effectively fulfill the requirements of modern international food legislation regarding the system of traceability in food and feed chains and the observance of environmental safety at facilities for the production and circulation of food products and animal feed, the national standard DSTU ISO 22000:2019 "Food safety management systems" was approved. Requirements for any organization in the food chain" [9, c. 28].

The legislative acts of the EU, the USA, other countries, as well as Ukraine, determine that the main functions of official bodies that control the safety of food products include the verification at enterprises of the fact of the implementation of the product safety management system (HACCP) and control of their proper application by the manufacturer. The traceability system must be implemented by

food manufacturers in all developed countries of the world. Together with the HACCP system, it enables the management of food safety [6, c. 18].

In our country, the state service of veterinary medicine is being reformed in accordance with EU requirements. The reform provides that part of the staff of the state veterinary service will join the National Food Safety Authority, whose primary task is to effectively implement EU food legislation into the practice of national food production facilities [7, c. 35; 8, c. 16].

According to the requirements of EU Regulations No. 178/2002, No. 183/2005, facilities for the production of food products and feed must identify from whom they receive raw materials and ingredients, and have a traceability system and procedures that allow you to quickly obtain the necessary information [5, c. 24; 7, c. 13].

Components of the food chain that affect the implementation of the traceability system: environmental factors: soil, pesticides, fertilizers, agrochemicals, plant cultivation (traditional/organic (feeds), feed additives); biological factors: growing, keeping, treating animals, obtaining raw materials, storage, transportation; processing and production of products, transportation, storage, circulation, consumption. The traceability system provides a "step back - a step forward" along the food chain and allows identification of suppliers and customers of products. According to the traceability system, the manufacturer must establish the connection "supplier-product" and "product - customer". In order to identify the source of a food safety problem, it is necessary to have systems that can trace a food product forward and backward along the entire food chain.

The system of traceability "from the consumer to the producer" is called tracing. Such systems already exist in the EU within the framework of modern food legislation. Tracing is a tracking system that allows you to determine the place of origin and characteristics of a specific food product at any stage of the chain using several search criteria. Tracing provides the ability to identify the origin of a certain type of product in the direction up the supply chain, using records made at previous stages of movement. Knowing, for example, the batch number of food products, it is possible to determine which raw materials were used for the production of this

product and the nature of its origin.

Tracking is a system for tracking the movement and location of products, which allows you to identify them throughout the supply chain by one or more criteria (for example, batch number or expiration date, etc.). It is used in practice if it is necessary to recall products. Tracking makes it possible to track the route of movement of products that must be found along the way of their movement down the supply chain. It is used to determine product availability, inventory management. The main focus in tracking is on tracking the movement of products from the point of origin to the point of use.

The goals and objectives of the traceability system:

- identify partners in the food chain.
- Carry out a quick search for dangerous food products.
- Provide greater guarantees to the consumer regarding the safety of the food product.
- Control all components of the food product and the entire food chain.
- Expeditiously remove feed and food products from circulation in the event of a threat to the health of the consumer.
- Ensure compliance with specifications and requirements of trading or traceability partners.
- To enable the manufacturer to meet the requirements of legislation and regulatory documents.
- To achieve effective management of supply logistics as a whole.
- Help the consumer get information about raw materials, product composition and production method (organic or inorganic production).
- Carry out downward tracing - from the producer to the consumer (tracking).
- Carry out upward tracing - from the consumer to the producer (tracing).

The International Association of GSI developed on the basis of all current standards ISO 9000 and ISO 22000 developed the GSI Global Traceability Standard, which describes in detail the process, gives a step-by-step model for the development of this system, which allows enterprises to develop it. GSI global traceability

standard, includes: identification of participants and trading partners, trade items and events; marking and/or methods of applying labels and/or attaching labels to goods; determination of types and types of data to be collected and stored; determination of methods and minimum requirements for keeping records and archival documents, in particular for their storage.

Conclusions. A proper food/feed traceability system in the food and feed chains is valuable for both food and feed manufacturers and trade, as it is a mechanism for ensuring the safety and quality of the latter. The GSI Global Traceability Standard is an important guide for manufacturers to create an identification, registration, traceability system. The traceability system is harmoniously combined with the HACCP system and may be part of it.

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