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У збірнику матеріалів конференції подано результати сучасних наукових досліджень за секціями: фундаментальні питання ветеринарної медицини; актуальні питання незаразної патології тварин; актуальні питання заразної патології тварин; студентська наука.

Розраховано на науково-педагогічних працівників, представників науково-дослідних установ, хімічних лабораторій, науковців, спеціалістів установ та компаній ветеринарного напрямку, аспірантів, студентів.

У разі повного або часткового використання матеріалів збірника посилання обов'язкове. Відповідальність за зміст поданих матеріалів, точність наведених даних та відповідність принципам академічної доброчесності несуть автори.

Відповідальний за випуск: В.А. Томчук

3. Food Control. Systematic review and meta-analysis of ESBL-producing *E. coli* and *Salmonella* in foods of animal origin in Europe. 2025. <https://scite.ai/reports/systematic-review-and-meta-analysis-of-lZAb4Lwv>

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BACTERIOLOGICAL SAFETY OF FISH AND FISH PRODUCTS IN THE CONTEXT OF THE “ONE HEALTH” CONCEPT

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The current food safety system in the European Union is based on preventive risk management at all stages of the food chain. Its operation involves product traceability, the application of procedures based on HACCP principles, the carrying out of official controls, and the use of laboratory testing as one of the tools for verifying an adequate level of safety. For fish and products of aquatic origin, depending on their type and production technology, controls are supplemented by the assessment of other parameters, in particular histamine content and organoleptic characteristics. It is important to note that, in the European model, the compliance of an individual laboratory sample with established microbiological criteria is not regarded as a standalone guarantee of the safety of the entire batch of products. Laboratory control is an element of a much broader system for the prevention and identification of hazards and the management of identified risks [1–4].

The control of fish and fish products forms part of the overall food safety surveillance system. Among microbiological hazards, particular attention is paid to *Salmonella spp.* and *Listeria monocytogenes*, whilst additional criteria and corresponding laboratory methods are applied to certain types of fish products. The relevance of this approach is confirmed by cases of foodborne infections linked to fish products, in particular the European outbreak caused by *L. monocytogenes* ST173. A separate area of modern control is the assessment of the prevalence of antimicrobial resistance in the food chain. The detection of multi-resistant *E. coli* isolates in fish does not constitute direct evidence of the transmission of a specific bacterial clone from a food product to a human.

The detection of pathogenic or antibiotic-resistant bacteria in a finished product should be regarded as a basis for identifying the possible source and routes of their spread, rather than merely as the final result of laboratory testing.

It is now essential to shift the focus further away from a predominantly product-oriented control system towards one based on risk assessment in accordance with the One Health principles. With regard to aquaculture and fish products, this entails the development of a unified research programme covering water, feed, fish at various stages of rearing, the production environment, processing equipment, raw materials and finished products.

Further harmonisation of the Ukrainian system with EU practices requires not a mechanical expansion of the list of microorganisms tested, but, first and foremost, the creation of an integrated system for the collection, storage and analysis of laboratory data. Key components of this process include the standardisation of sampling protocols, the standardisation of testing methods and the interpretation of results, the formation of representative samples, the use of molecular genetic methods, and ensuring the comparability of data across laboratories, regions and different observation periods. This will make it possible to assess not only the current level of microbiological contamination in fish products, but also the dynamics of the spread of individual pathogens and AMR phenotypes.

Fish and fish products should be regarded as an important component of the epidemiological surveillance system for foodborne pathogens and antimicrobial resistance. The detection of resistant, including multi-resistant, *E. coli* isolates in products of aquatic origin justifies the need for a comprehensive investigation not only of the final product but of the entire production chain. European experience demonstrates the effectiveness of a model in which laboratory diagnostics are combined with traceability, official controls, risk analysis, epidemiological data and modern methods of molecular characterisation of isolates. For Ukraine, a priority should be the establishment of a standardised system for monitoring fish, fish products and related environmental factors based on the One Health approach, which will ensure the collection of comparable data, the timely detection of new microbiological threats and a scientifically sound assessment of risks to animal and human health.

Bibliography

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