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THE PROBLEM OF FISH PRODUCT QUALITY IN THE CONTEXT OF PARASITIC DISEASES: CHALLENGES FOR FOOD SECURITY OF UKRAINE

ПРОБЛЕМА ЯКОСТІ РИБНОЇ ПРОДУКЦІЇ В КОНТЕКСТІ ПАРАЗИТАРНИХ ЗАХВОРЮВАНЬ: ВИКЛИКИ ДЛЯ ПРОДОВОЛЬЧОЇ БЕЗПЕКИ УКРАЇНИ

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Ensuring food security in Ukraine requires not only increasing production volumes but also guaranteeing high standards of product quality and safety for consumers. Parasitic agents constitute a significant biological hazard in both raw materials and processed fish products. Parasites can adversely affect the organoleptic, physicochemical, and sanitary-hygienic quality parameters [1]. Therefore, effective risk assessment and management require an integrated approach, including veterinary and sanitary control, laboratory monitoring, and the implementation of modern product safety management systems [2].

Parasitic infestations directly compromise fish quality and may pose a risk to human health [6], making them a critical component of food safety assessment under HACCP principles and national regulatory frameworks. Beyond their direct impact on quality parameters, parasitic infestations impair the immune status of fish, thereby increasing susceptibility

to secondary bacterial and viral infections. This contributes to the formation of multifactorial disease complexes, complicates treatment strategies and leads to increased production costs [3].

Current environmental challenges in Ukraine, including climate change, rising water temperatures, and eutrophication of aquatic ecosystems, facilitate the expansion of parasite distribution ranges and prolong their active developmental period [4]. Additionally, certain natural water bodies have been affected by military activities or remain in temporarily uncontrolled territories, limiting effective veterinary monitoring and disease control measures [5].

To improve the quality of fish products in Ukraine and reduce the impact of parasitic diseases, comprehensive systemic approaches are required, including: application of modern methods of diagnosis and prevention; implementation of effective biosecurity strategies in aquaculture enterprises; improvement of national systems for monitoring parasitic infestation in natural and cultivated water bodies; adaptation of husbandry and feeding regimes to increase fish resistance; establishing cooperation between ichthyopathology doctors and fish farms.

Thus the national approach to food security should integrate quantitative production indicators with a structured and evidence-based quality management system, recognizing parasitic diseases as a critical determinant of product safety, consumer properties, and market competitiveness. Timely and coordinated implementation of these measures will contribute to strengthening Ukraine's food system, improving the quality of food resources, and safeguarding public health.

Bibliography:

1. Kotb A. A., et al. Fish food security: analyzing the economic and environmental variables. 2025. *Discover Food.* Vol. 5 (200). P. 1–17. (2025). https://doi.org/10.1007/s44187-025-00508-1

2. Фурман С., Лісогурська Д., Лісогурська О. Безпечність рибних продуктів: оцінка хімічних, біологічних та токсикологічних ризиків. *Аграрний вісник Причорномор'я*, 2025. Вип. 114. С. 71–81. https://doi.org/10.37000/abbsl.2025.114.07

3. Okon E. M., et al. Dynamics of co-infection in fish: A review of pathogen-host interaction and clinical outcome. *Fish Shellfish Immunol*ogy. *Reports*. 2023. Vol. 4. 100096. https://doi.org/10.1016/j.fsirep.2023.100096

4. Солопова Х. Я., Бернакевич О. М., Кориляк М. З. Вплив кліматичних змін на сезонність паразитарних захворювань риб. *Сучасні проблеми раціонального використання водних біоресурсів* : VI Міжнар.

наук.-практ. конф. : матер., 9-10 жовтня 2024 р. Київ : ПРО ФОРМАТ, 2024. С. 252–254. https://if.org.ua/index.php/en/konf-irg/1152-2024kijiv

5. Shumilova O., et al. Impact of the Russia–Ukraine armed conflict on water resources and water infrastructure. *Nature Sustainability*. 2023. Vol. 6. P. 578–586. https://doi.org/10.1038/s41893-023-01068-x

6. Ramos P. Parasites in fishery products – laboratory and educational strategies to control. *Experimental Parasitology*. 2020. Vol. 211. 107865. https://doi.org/10.1016/j.exppara.2020.107865