diagnose Felv. The use of these two methods can improve the prognosis of cats infected with Felv, but their use without the use of a comprehensive diagnostic method can lead to a distortion of the prognosis as well as to an incorrect diagnosis. As a result of the studies carried out, both the rapid antigen test and the PCR test gave negative results in 65% of cases, which can be interpreted as an abortive form of feline leukaemia and the absence of infection.

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AQUATIC ANIMALS AND PLANTS AS INDICATORS OF THE INFLUENCE OF DIFFERENT TYPES OF POLLUTION OF WATER

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Keywords: *aquatic animals, aquatic plants, indicators, influence of different types of pollution*

Introduction. The study of different types of pollution and their effects on molluscs is key to understanding the ecological sustainability of aquatic ecosystems. Molluscs are sensitive indicators of pollution, indicating the diversity and intensity of ecological problems in aquatic biotopes. Identifying the negative effects of chemical, biological and radiation pollution on molluscs can lead to the development of effective strategies for the protection and restoration of aquatic ecosystems. As molluscs play an important ecological role in aquatic environments, their study helps to preserve biodiversity and maintain ecological balance. Knowledge of the effects of pollution on molluscs is necessary to make scientifically based decisions in the field of

environmental protection and to create a sustainable and healthy aquatic environment [5].

A brief overview of the main types of pollution includes chemical, bacterial and radiative factors [7]. Chemical pollution originates from industrial emissions [4] and the use of agrochemicals, and has a negative impact on aquatic ecosystems [1, 6]. Bacterial contamination can cause shellfish diseases, and radiation contamination causes severe systemic changes in shellfish organisms and their environment.

Results and discussion. Aquatic animals and plants are important indicators of water pollution and provide valuable insights into the health and quality of aquatic ecosystems. Different species have varying degrees of sensitivity to pollutants, making them reliable bioindicators for assessing the impact of different types of pollution, including chemical, biological and physical pollutants. By monitoring physiological and behavioural changes in aquatic organisms, it is possible to detect early signs of ecosystem degradation and identify sources of pollution.

Aquatic plants, due to their fixed nature and direct exposure to water pollutants, can reflect the cumulative effects of pollutants over time. Changes in plant health, growth rates and photosynthetic efficiency can provide important information on nutrient imbalances, heavy metal accumulation or the presence of toxic substances. Similarly, aquatic animals, especially those higher up the food chain, can reveal the long-term effects of contaminant bioaccumulation and biomagnification, providing a comprehensive view of ecosystem health.

The potential effects of water pollution on molluscs cover a number of important aspects of their life activities. Changes in growth may occur due to excessive concentrations of toxic substances, affecting the biological processes of shell development and formation. The reproduction of bivalve molluscs can be affected by pollution, leading to disturbances in the reproductive system and a reduction in the number of offspring produced. Adverse effects on reproduction can have important ecological consequences for shellfish populations and the biodiversity of aquatic ecosystems. Pollution can also reduce the chances of survival of molluscs by reducing food availability, altering water quality and increasing susceptibility to disease. These effects can affect the ecosystem as a whole, increasing the vulnerability of molluscs and their contribution to maintaining ecological balance. The interaction of molluscs with bacteria and microorganisms is determined by a complex network of factors, including microbiota, pathogens and beneficial organisms. Research shows that certain microorganisms can perform beneficial functions, such as assisting in the removal of organic matter and maintaining the health of shellfish. However, pathogenic microorganisms can cause disease and adversely affect the physiology of shellfish. Measures to reduce the risk of infection of shellfish by pathogens include monitoring the microbiota of the water and shellfish for pathogens and controlling water quality to maintain optimal water parameters, such as pH and oxygen concentration, to reduce stress on shellfish and their susceptibility to infection.

Interactions of molluscs with other species play a key role in maintaining biodiversity in aquatic ecosystems.

Molluscs perform a number of important ecological functions, contributing to the stability and diversity of aquatic environments. Bivalve molluscs are filter feeders, cleaning the water of particles and impurities. This helps to maintain water quality and create favourable conditions for other species. Molluscs also play an important role in regulating populations of algae and other marine organisms. Their feeding activity helps to maintain the balance of aquatic ecosystems, preventing undesirable changes. These animals become a food source for a variety of predators such as fish and birds. This contributes to the development of other levels of the ecosystem and supports biodiversity. In general, the interactions of molluscs with other species determine the ecological sustainability of aquatic systems and play a key role in maintaining biodiversity, which is important for the balanced and sustainable functioning of aquatic ecosystems [2].

Conclusions. The use of molluscs as sensitive bioindicators of pollution is becoming increasingly important, particularly for integrating information on pollution levels in a given region or over a given period. A prerequisite for the successful use of this method is a thorough knowledge of the sources and movement of pollutants in ecosystems in order to study the dynamics of their accumulation in systems. The physiological response of molluscs to pollution reflects the quality of the environment, especially in naturally degraded ecosystems, which can be used to assess the impact of different pollutants. The use of molluscs in toxicity bioassays is important because these organisms are easily cultured in the laboratory, can be maintained on artificial diets containing regulated amounts of metals, and respond rapidly to metal contamination at sub-lethal concentrations.

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USE OF BIOMARKERS OF OXIDATIVE STRESS ON AQUATIC ORGANISMS TO DETERMINE THE STATE OF THE WATER

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Introduction. Oxidative stress occurs when the level of free radicals in cells exceeds the body's ability to neutralise them with antioxidants. This phenomenon can be caused by various factors such as water pollution with toxins, increased levels of heavy metals or excessive use of pesticides [1, 5]. The use of biomarkers of oxidative stress in hydrobionts is used to determine the state of the reservoir, as oxidative stress is an important factor affecting the health and ecological state of water resources. We used methods for detection and measurement of biomarkers of oxidative stress in mollusc and fish organisms, such as the activity of catalase, superoxide dismutase, quantitative content of malondialdehyde, diene conjugates and others. The possibilities of using these biomarkers to determine the qualitative state of the water body and to identify the impact of various factors, such as water pollution and changes in the ecosystem, are very informative [2, 4].

Materials and methods To study the content of lipid peroxidation products in extracts of white muscle, gills, liver and brain of common carp. The method of determination of the specified substances in fish tissues was carried out according to the standard method using a set of reagents of the company "Filisit". Statistical processing of the research data was carried out using the Microsoft "Office Excel" 2010 application package with the use of Student's T-test.

Results and discussion. Studies show that molluscs and fish can be sensitive indicators of the condition of water bodies due to their response to oxidative stress. Biomarkers of such stress include increased levels of malondialdehyde, which is indicative of lipid peroxidation and can indicate the presence of oxidative stress and the activity of antioxidant enzymes - a decrease in the activity of enzymes such as superoxide dismutase and catalase is also an indicator of stress.