

A number of scientists believe that optimizing the status of omega-3 fatty acids can prevent the development of infectious diseases, including COVID 19, and recommend that diet should be supplemented with EPA and DHA [Weill R. et al., 2020; Calder R. et al., 2020].

Adequate omega-3 fatty acids can be achieved by intake of certain foods (flaxseed, soybean, rapeseed oil, cold sea fish, fish oil) and / or taking dietary supplements.

Unfortunately, neither optimal doses of omega-3 fatty acids nor a required duration of their intake, which can contribute to optimal immunocorrection, are known yet. According to R. Calder et al. (2020), the ideal daily dose of omega-3 fatty acids is 250 mg, whereas M.Husson et al. (2020) recommend the use of higher doses - 500 mg / day. The minimum duration of omega-3 fatty acids, according to various authors, ranges from 2 months [Husson M. et al., 2016] to 1 year [Watson H. et al., 2020].

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WAYS TO MINIMIZE AN ENVIRONMENTAL HAZARD TO THE RIVER SYSTEM OF THE POKUTSKO-BUKOVYNIAN CARPATHIANS

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The aim of the research was to investigate the ecological condition and to develop a system of engineering measures to minimize the environmental hazard to the river system. As a benchmark for comparing the impact of anthropogenic activities on the state of mountain ecosystems, we have chosen the protected areas of the Vyzhnytskyi National Nature Park (hereinafter NNP). To prevent microbiological contamination of streams and watercourses, we used a fibrous carrier type "Via" (TU 995990), made of textured plait thread (TU 6-06-C116-87, tex 350). Earlier, a number of authors (Hvozdiak, 2003; Hvozdiak and Sapura, 2009) found that the fibrous carrier "Via" can be successfully used for the construction of "bioreactors" for surface degree of purification. Water sampling was carried out in the Cheremosh and Siret river basins, which flow into the Pokutsko-Bukovynian Carpathians and is part of the Ukrainian part of the Danube basin. Coli-index, total number of microbes count was determined by generally accepted methods in accordance with methodological guidelines (Nakaz MOZ Ukraine 284, 2007). To confirm the morphological and other properties of the culture of microorganisms used the method of microscopy with subsequent identification according to the determinant of Bergi.

An increase in the content of suspended solids in the river system of traditional economic landscapes is shown, which is accompanied by a decrease in free oxygen in water and an increase in biochemical oxygen consumption and chemical oxygen consumption and total oxidation. At the same time, the content of chlorides and nitrites (salts of hydrochloric and nitric acids) increases in water, which leads to acidification of the river system pH = 5.8 (below the norm San PiN 4360-88; Surface Water Directive EES). Based on the monitoring observations, it can be stated that there is a progressive trend of pollution of the river system in the territories of traditional economic landscapes, which are outside the protected areas and where there is active anthropogenic activity. The use of a bioreactor based on fibrous carrier "Via" for surface water treatment has shown that during the season the carrier becomes overgrown with invertebrates (so-called periphyton). Bacteria and algae also accumulate on the lashes. To reduce the inflow of discharges into the river system of waste from alcohol and food enterprises, in the absence of centralized treatment facilities in the region, a reagent method of cleaning discharges based on sodium hypochlorite was quite effective. The optimal dosage of sodium hypochlorite, which is used for wastewater treatment, is 0,45 dm³/m³ of untreated wastewater. The proposed method does not require a radical restructuring of existing treatment facilities and significant material costs to create new ones using our proposed technology. Sodium hypochlorite, used as a reagent, is accumulated in large quantities at the Kaluga plant for the production of sodium metal as a waste that requires additional costs for disposal. In this situation, it can be claimed about combination of economic and environmental components of sustainable development. To reduce the pollution of the river system with waste from the forest processing cycle, we proposed the use of a modified method of obtaining fuel pellets and briquettes

using sulfate soap, the main component of which is lignin. Sulfate soap is accumulated as a waste of pulp and paper production and requires mandatory disposal. This approach allows to significantly reduce the working pressure in the equipment where the pellets are formed, and to involve in the production of low-grade wood waste. In the process of extrusion method of obtaining granules, to improve their quality, we used a lignin binder. Thus, it is proved that one of the ways to reduce the pollution of the river system with wood waste can be the creation of the production of fuel pellets and briquettes - a valuable energy product.

As a result of research, two types of environmental threats to surface waters of the region were identified: microbiological pollution of streams and watercourses and pollution of the hydrosphere by effluents of processing enterprises, which are a common industry in the study region. A number of engineering and technical solutions to increase the level of ecological safety of the mountain ecosystem are proposed.

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MICROBIOME OF THE COLON CAVITY OF THE ADULT POPULATION IN BUKOVYNA REGION

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The colon is the main reservoir of the symbiotic human microbiota. About 60% of symbiotic microorganisms of the human body persist in the distal parts of the intestine. The colon microbiome completes the fermentation of undigested food residues, participates in the process of peristalsis, secretion of biologically active substances, food absorption and protection of the mucous membrane against pathogenic microbiota, forming its colonization resistance.

The understanding of the complexity of the polytaxonomic structure of the intestinal microbiome has greatly expanded in recent decades after the development and implementation of highly productive bacteriological, molecular and metagenomic research methods. Due to their use in 2011 by a group of scientists from the European Laboratory of Molecular Biology, the intestinal microbiome is classified into three main variants or enterotypes, which are determined by the dominant bacteria in the microbiota. Each enterotype appeared to have not only its own genus of bacteria (*Bacteroides*, *Prevotella*, *Ruminococcus*), but also differs in the ratio of individual representatives of this taxon.

Study of taxonomic composition, population level and microecological indicators of "host-microbiome" ecosystems, by the index of permanence, frequency of occurrence, Margalef indices of species richness, Whittaker species diversity, Simson, Berger-Polydaker and Parker indices of species dominance found that leading microorganisms in the Bukovynan region are bacteria of the genus *Bacteroides*, which were found in all subjects not only among healthy people, but also in patients with various diseases of the intestines and other organs.

Bacteria of the genus *Bacteroides* in all healthy people were found in a high population level (from 8.97 ± 0.47 to 9.98 ± 0.81 lg CFU/g), which confirms their dominant role in the microbiome in taxonomic composition, as well as the coefficient of quantitative dominance both in healthy and sick. *Bacteroides* in the intestine have a high coefficient of quantitative dominance, a coefficient of significance and one of the key taxa involved in the self-regulation of the intestinal microbiome. It should be noted that this enterotype among the inhabitants of Bukovyna region was formed due to a specific diet. The latter includes foods rich in animal fats.

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SENSITIVITY OF P. FREUDENREICHII TO SUBSTANCES FOR THE SORTING OF FABRICS IN THE TEXTILE INDUSTRY

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The human skin is in constant direct contact with the environment, including exogenous microflora. The concentration and species composition of the skin microflora depend on the content